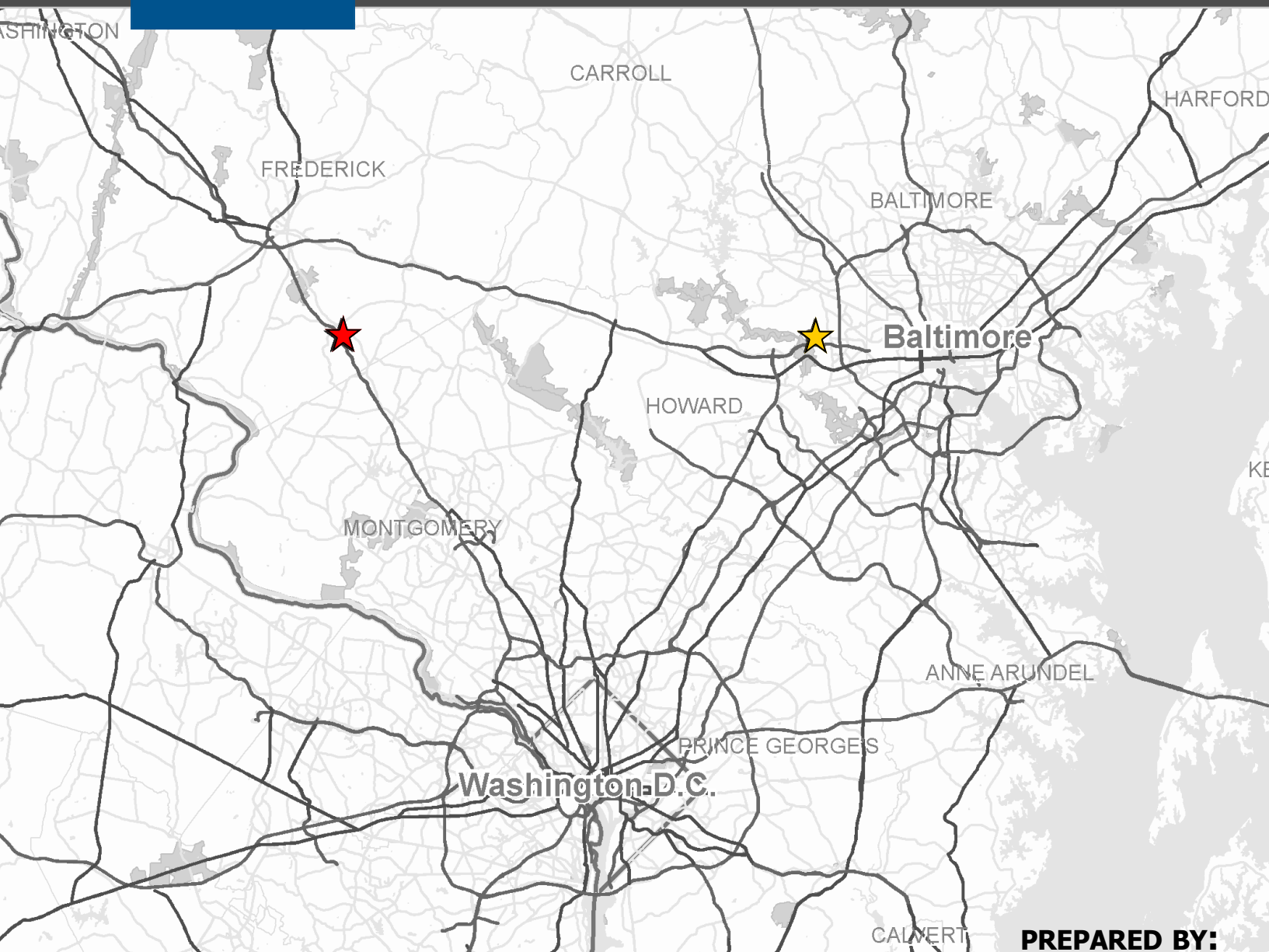




ENVIRONMENTAL ASSESSMENT FOR SOCIAL SECURITY ADMINISTRATION NATIONAL SUPPORT CENTER



January 2011

PREPARED BY:



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**ENVIRONMENTAL ASSESSMENT
FOR
SOCIAL SECURITY ADMINISTRATION
NATIONAL SUPPORT CENTER**

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LIST OF ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
ARRA	American Recovery & Reinvestment Act
AOC	Area of Consideration
AQCR	Air Quality Control Region
BMPs	Best Management Practices
CAAA	Clean Air Act Amendment
CATEX	Categorical Exclusion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
COMAR	Code of Maryland Regulations
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
dB	decibels
dBA	A-weighted Decibel
dbh	diameter breast height
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Environmental Site Assessment
E&S	Erosion and Sedimentation
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GSA	General Services Administration
HAPs	hazardous air pollutants
IT	Information Technology
LESA	Land Evaluation and Site Assessment
LOS	Levels of Service

MHT	Maryland Historic Trust
MW	megawatts
MDE	Maryland Department of the Environment
MPE	maximum permissible exposure
NAAQS	National Ambient Air Quality Standards
NCC	National Computer Center
NEPA	National Environmental Policy Act
NESHAPS	National emissions standards for hazardous air pollutants
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSC	National Support Center
NSR	New Source Review
O ₃	ozone
ORC	Office Research Center
Pb	lead
PM	particulate matter
REC	Recognized Environmental Conditions
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SSA	Social Security Administration
SO ₂	sulfur dioxide
STP	Shovel Test Pit
U.S.	United States
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOCs	volatile organic compounds

EXECUTIVE SUMMARY

The (United States) U.S. General Services Administration (GSA) proposes to acquire property and construct a new Social Security Administration database center. The Social Security Administration (SSA), headquartered in Woodlawn, Maryland, includes the National Computer Center (NCC), which contains SSA's mainframe computers, much of the executive staff for policy and programs, as well as field support components. The five-story, 458,802 square foot, steel building was constructed from 1977 to 1979 and occupied in May 1980. As part of the American Recovery and Reinvestment Act (ARRA) of 2009, SSA received an appropriation to construct a new National Support Center (NSC). This center will replace the existing NCC at the SSA Campus in Woodlawn, MD, which houses computer operations essential to prompt and accurate payment of benefits to Americans. As the needs of the SSA continue to grow, the existing building housing the data center will not have the capacity to support SSA's growing information technology needs. Based on the current projected workload trends, additional capacity will be necessary. Under ARRA, Division A, Title VIII and on behalf of SSA, GSA proposes to construct a facility totaling approximately 400,000 square feet for the new NSC. The construction would include approximately 200 parking spaces. This facility would employ approximately 208 employees; however, not all employees would be working at the facility during the same shift. The NSC program requires a minimum of 35 acres of land suitable for development, which includes the building area, vehicle circulation, and security setbacks. In accordance with the National Environmental Policy Act (NEPA) of 1969, amended, and the Council on Environmental Quality regulations implementing NEPA [40 Code of Federal Regulations {CFR} 1500-1508], GSA has prepared this Environmental Assessment (EA) to ascertain potential impacts to the human and natural environment.

ES.1 Description of Proposed Action

GSA proposes to construct a new 400,000 square foot building for the new NSC in either Woodlawn, Maryland or Urbana, Maryland. The Proposed Action consists of the acquisition of property and the construction of a new NSC that would consist of a data center, mechanical energy center, electrical energy center, facility access center, office, warehouse and shops, truck inspection facility, guard booth, grounds equipment storage, and materials storage. The construction would also include a parking lot for approximately 200 parking spaces and stormwater management facilities.

ES.2 Alternatives

Two build alternatives and the No Action Alternative were considered for the implementation of the Proposed Action. Site screening and market analysis have narrowed down the site search to two potential action sites: Woodlawn, Maryland located in Baltimore County and Urbana, Maryland in Frederick County. The proposed site in Woodlawn is located approximately three miles west of Baltimore City. The 120 acre site is comprised of undeveloped open lands, fallow agricultural fields, an abandoned golf driving range, and woodlands. The site would be accessed from Johnnycake Road. The site in Urbana is located approximately 35 miles west of Baltimore City and is comprised of open undeveloped lands such as fallow agricultural fields, and shrub land. The Urbana site is approximately 65 acres in size and is bounded by I-270 to the west and Fingerboard Road to the north.

The alternatives in the Environmental Assessment will be as follows:

- No Action Alternative
- Site 132-Johnnycake Rd, Woodland, MD
- Site 135B-Urbana, MD

THE ENVIRONMENTAL REVIEW PROCESS

The National Environmental Policy Act (NEPA) of 1969 requires consideration of environmental issues in federal agency planning and decision making. Under NEPA, federal agencies must prepare an environmental assessment (EA) or environmental impact statement (EIS) for any federal action, except those actions that are determined to be “categorically excluded” from further analysis.

An EIS is prepared for those federal actions that may significantly affect the quality of the human environment. An EA is a concise public document that provides sufficient analysis for determining whether the potential environmental impacts of a proposed action are significant, resulting in the preparation of an EIS, or impacts that are not significant, resulting in the preparation of a Finding of No Significant Impact (FONSI). Thus, if GSA were to determine that the Proposed Action would have a significant impact on the quality of the human environment, an EIS would be prepared.

The intent of this EA is to assess the potential environmental effects of the proposed construction, maintenance, and operation of the NSC. SSA was authorized to perform this project under ARRA. SSA then authorized GSA to perform the procurement of the project. Accordingly, information and analyses documented in this EA will be used to support the agency in making one of three decisions: No Action Alternative, support action Site 132 – Johnnycake Road, or support action 135B – Urbana. This EA has been prepared pursuant to NEPA and the following NEPA implementation regulations and guidelines: The Council on Environmental Quality (CEQ) regulations, as contained in 40 CFR Parts 1500 to 1508, which direct federal agencies on how to implement the provisions of NEPA.

ES.3 Environmental Impacts of the Proposed Action

Site 132- Johnnycake Road

Implementation of the Proposed Action at Site 132 would require blasting, excavation, and grading associated with construction activities. These activities would result in disturbance to soils within the project site. Proper erosion and sedimentation control plans would be developed and followed during construction to minimize impacts. Best Management Practices (BMPs) would be used during construction to minimize these potential impacts. The Farmland Protection Policy Act (FPPA) protects farmland soils from conversion to non-farmland use. Prime farmland soils and soils of statewide importance are present within the site and would be impacted; therefore, the site was evaluated under the FPPA. Since the site is within an urban area, a farmland conversion impact rating (AD-1006) was not required. Therefore, there would be no significant impacts to topography and soils.

Impacts to biological resources would include the impact to some existing woodlands, wetlands, and surface waters. Avoidance and minimization efforts would take place to the extent practical. Implementing the Proposed Action at Site 132 would impact wetlands and Waters of the U.S. However, final site layout has not been decided; therefore, exact impacts cannot be determined. Coordination with the U.S. Army Corps of Engineers (USACE) is needed prior to construction to obtain a jurisdictional determination on delineated wetlands. Impacts would then need to be calculated based on the

1 jurisdictional boundaries and mitigation would need to be discussed with the USACE and Maryland
2 Department of the Environment (MDE). Appropriate permits would need to be obtained. Where not
3 feasible, mitigation measures would be carried out in accordance with the permitted impacts. Proposed
4 changes to land use would be compatible with land uses surrounding the site. Therefore, no significant
5 impacts to land use are anticipated under this alternative.

6 Loss of the vegetative community would have minimal impacts due to the site layout and the minimal
7 habitat the area currently provides. A majority of the site is fallow agricultural land and an abandoned
8 golf driving range. Review of the U.S. Fish and Wildlife Service (USFWS) Federally Listed Threatened
9 and Endangered Species List indicated no threatened and endangered species are present within the
10 project area. Coordination with Maryland Department of Natural Resources determined that no state listed
11 species are present. No threatened and endangered species were observed during the site visits.

12 For historic and cultural resources, in the Area of Potential Effects for Direct Effects for Site 132 there are
13 no known significant archaeological resources that would be impacted.

14 Based on traffic surveys conducted for this site, increases in traffic would result with the implementation
15 of the Proposed Action at Site 132. Four intersections were evaluated and the following roadway
16 improvements were identified to address the impacts: a roundabout at Johnnycake Road and Hollofield
17 Road Intersection; a left-turn lane for eastbound traffic on Johnnycake Road at the Johnnycake Road and
18 site access location; and an all-way stop at the intersection of Fairbrook Road and Greengage Road. The
19 fourth intersection, Johnnycake Road and Fairbrook Road, would not have traffic impacts, therefore no
20 improvements would be necessary.

21 The construction and operation of the NSC facilities at Site 132 would not have significant impacts to
22 socioeconomic characteristics of Baltimore County. Moreover, low-income and minority populations
23 would not be disproportionately affected.

24 Site 132 would also experience temporary impacts to air quality and noise due to construction activities.
25 Site 132 in conjunction with past, present, or reasonably foreseeable future actions, are not anticipated to
26 result in major adverse cumulative impacts to natural, cultural or socioeconomic resources in the area.

27 **Site 135B- Urbana**

28 Implementation of the Proposed Action at Site 135B would require blasting, excavation and grading
29 associated with construction activities. These activities would result in disturbance to soils within the
30 project site. Proper erosion and sedimentation control plans would be developed and followed during
31 construction to minimize impacts. It is anticipated that impacts associated with these activities would be
32 minor. Prime farmland soils and Farmland of Statewide Importance are associated with Site 135B. In
33 accordance with FPPA, an AD-1006 form was completed for this site. Impacts to farmland soils would be
34 minor.

35 Loss of the vegetative community would have minimal impacts due to the site layout and the minimal
36 habitat the area currently provides. A majority of the site is agricultural land and provides minimal habitat
37 for wildlife species. Review of the USFWS Federally Listed Threatened and Endangered Species List
38 indicated no threatened and endangered species are present within the project area. Coordination with

Maryland Department of Natural Resources determined no state listed species are present. No threatened and endangered species were observed during the site visits.

No eligible or listed historic properties or archaeological sites would be impacted due to the implementation of the Proposed Action at Site 135B.

The construction and operation of the NSC facilities at Site 135B would not have significant impacts to socioeconomic characteristics of Frederick County. Moreover, low-income and minority populations would not be disproportionately affected.

Site 135B would also experience temporary impacts to air quality and noise due to construction activities.

Site 135B would not result in significant adverse impacts to the natural or manmade environment. Site 135B in conjunction with past, present, or reasonably foreseeable future actions, are not anticipated to result in major adverse cumulative impacts to natural, cultural or socioeconomic resources in the area.

ES.4 Avoidance and Minimization Measures

Avoidance and minimization efforts are undertaken to reduce the potential significance of the impact of an action. Actions taken as part of a permitting requirement, such as instituting BMPs during construction to limit soil erosion, are not considered to be mitigation, as they are required as part of the permitting process. Total avoidance of sensitive resources is not always possible. Avoidance measures are considered to the extent practical and where feasible are carried forward. The site layout at either site must incorporate a selected design, which requires security setbacks. Prior to the start of construction, a preconstruction meeting would be held to discuss the environmental protection plan. This plan would include a description of the environmental training program for workers performing work on the complex, and procedures to address: water, land, air, fish, and wildlife resources. The Environmental Protection Plan would also address monitoring and quality control procedures. Any impacts to regulated Waters of the U.S., including wetlands, would require permits to be obtained through a Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Non-tidal Wetland in Maryland to the MDE and the USACE. Prior to disturbance of the identified areas, a jurisdictional determination would be requested from the USACE to determine the regulatory status of the resources and a permit application would be submitted if required.

The following actions would be taken to reduce the impacts from building at either site.

- During construction activities, standard safety measures would be implemented, such as temporary fencing or other such measures to limit access to the area by non-construction personnel.
- During construction activities, standard noise control measures, such as equipment sound mufflers, would be used to reduce potential impact from construction-related noise.
- Fugitive dust associated with construction would be handled through BMPs, such as watering of exposed soils, soil stockpiling, and soil stabilization.

Furthermore, numerous measures would be taken during construction to protect natural resources:

- Confining demolition and construction activities to work area limits.

- 1 • Removing debris, rubbish, and other waste resulting from demolition and construction operations.
- 2 • Preventing oily or hazardous substances from entering the ground, drainage area, or surface water
- 3 features.
- 4 • Preventing equipment from fording live streams.
- 5 • Identifying land resources to be preserved within work area.
- 6 • Conducting earthwork to minimize the duration of exposure of unprotected soils.
- 7 • Constructing/installing temporary and permanent erosion and sedimentation control features as
- 8 required.
- 9 • Tagging specimen trees and plants that are scheduled to remain in place.
- 10 • Limiting dust and dirt rising and scattering in the air by use of mulch, water sprinkling, temporary
- 11 enclosures, and other methods.
- 12 • Storing volatile liquids in closed containers.
- 13 • Maintaining equipment to reduce gaseous pollutant emissions.
- 14

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1.0 PURPOSE AND NEED

1.1 Introduction

1 The U.S. General Services Administration (GSA) proposes to acquire property and develop a parcel(s) of
2 land to construct a new Social Security Administration (SSA) National Support Center (NSC) for a new
3 state-of-the-art information technology center. The SSA National Computer Center (NCC) is currently
4 located on the SSA Campus in Woodlawn, Maryland.

5 Under the American Recovery and Reinvestment Act (ARRA), Division A, Title VIII and on behalf of
6 SSA, GSA proposes to construct a facility that would consist of multiple buildings totaling approximately
7 400,000 square feet. The construction would include approximately 200 parking spaces. This facility
8 would employ approximately 208 employees; however, not all employees would be working at the
9 facility during the same shift. The NSC program requires a minimum of 35 acres of land suitable for
10 development to accommodate the building area, vehicle circulation, and security setbacks.

1.2 Background

11 The SSA, headquartered in Woodlawn, Maryland includes the NCC, which contains SSA's mainframe
12 computers, much of the executive staff for policy and programs, as well as field support components. The
13 five-story, 458,802 square foot, steel building was constructed from 1977 to 1979 and occupied in May
14 1980. The current NCC houses computer operations essential to prompt and accurate payment of benefits
15 to Americans. As part of the American Recovery and Reinvestment Act of 2009, the Social Security
16 Administration (SSA) received an appropriation to construct a new National Support Center (NSC). This
17 center will replace the existing National Computer Center at the SSA Campus in Woodlawn, MD, which
18 houses computer operations essential to prompt and accurate payment of benefits to Americans. As the
19 needs of the SSA continue to grow, the existing building housing the data center will not have the
20 capacity to support SSA's growing information technology needs. Based on the current projected
21 workload trends additional capacity will be necessary.

1.3 Proposed Action

22 The Proposed Action consists of the acquisition of property and the construction of a new NSC that
23 would consist of a data center, mechanical energy center, electrical energy center, facility access center,
24 office, warehouse and shops, truck inspection facility, guard booth, grounds equipment storage, and
25 hazardous materials storage, as well as parking for approximately 200 vehicles.

1.4 Purpose and Need for Proposed Action

26 The purpose of the project is to provide SSA with a building that meets their current information
27 technology needs and future expansion needs, as well as the security requirements of the facility.

28 The need for the project is due to the SSA building that currently houses NCC having exceeded its useful
29 life of 15 to 20 years. The existing facility can no longer support the data center and information
30 technology requirements of SSA. The NCC requires the addition of large numbers of servers on a
31 monthly basis to meet the information technology needs of SSA. The current facility cannot
32 accommodate the required capacity; therefore, additional space is needed. The servers that are required to

1 maintain the SSA databases also require a large amount of electricity. If these needs are not met, the
2 existing facility will not be able to meet the electrical demands.

1.5 Related Environmental Documents

3 A Categorical Exclusion (CATEX) was previously prepared for Site 132. The CATEX identified several
4 areas that required additional studies. In accordance with the Public Building Service NEPA Desk Guide
5 (GSA 1999) and due to the additional detailed studies that would be required, the site could not be
6 categorically excluded from further analysis. Therefore, an EA for the project was determined to be the
7 necessary level of NEPA documentation for this project.

1.6 Public and Agency Involvement

8 In accordance with NEPA Section 1506.6 (a), public involvement is a required and important component
9 to the development of the EA. The level of public involvement for EAs is based on the scope of the
10 project and whether it is a local, regional, or national project. Public involvement for the NSC EA began
11 in the scoping phase of the project. Scoping is the first opportunity for the public to identify potential
12 issues associated with the implementation of the Proposed Action at each site. One of the main objectives
13 of the scoping process is to identify public or agency concerns. To solicit input from the public, GSA
14 published notices in the Baltimore Sun and Frederick News Post, announcing the project and establishing
15 the public comment period. The public comment period for the SSA NSC project scoping was August 1,
16 2010 through September 1, 2010. In addition to the public notices in the local newspapers, letters were
17 also mailed to adjacent property owners of the Johnnycake Road site to announce the scoping and public
18 comment period. Letters were not mailed to the properties abutting the Urbana site because the adjacent
19 property owners are also the owners of the Urbana site. Fourteen comment letters and e-mails were
20 received during the scoping comment period. Comments consisted primarily of support for either Site 132
21 or Site 135B. Concerns raised during the comment period included, questioning of the short-list site
22 selection process, concern over increased traffic associated with Site 132, concern over potential for
23 increase in crime due to increase in traffic, and opposition of extending Security Boulevard to
24 accommodate additional traffic associated with Site 132. The concerns raised during the scoping period
25 have been addressed in the EA, primarily in the Traffic section (3.2.4).

2.0 ALTERNATIVES CONSIDERED

Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act establish a number of policies for federal agencies, including "...using the NEPA process to identify and assess reasonable alternatives to the proposed action that will avoid or minimize adverse effects of these actions on the quality of the human environment (40 CFR 1400.2[e]).

There are many factors associated with selecting and acquiring a site for Federal construction, and a data center creates added challenges. In 2009, GSA requested expressions of interest from land owners and authorized agents through a Federal Business Opportunities notice. Additionally, local economic development and planning groups were contacted. These efforts resulted in over 150 potential sites.

The potential sites were screened against categories of summary criteria which included: site characteristics and program; location/accessibility to SSA; energy/utilities; security and operations; environmental; local planning and development; budget/site costs.

Over 150 sites were evaluated and narrowed down to the 2 sites under consideration. The two sites that were determined to be the most suitable candidates for detailed evaluation in an EA are: Site 132, in Woodlawn, Maryland and Site 135B, in Urbana, Maryland (**Figure 1**). In addition to the two build alternatives, the No Action Alternative is evaluated in the EA. **Table 1** identifies resources that are present at each site.

2.1 No Action Alternative

Under the No Action Alternative, the proposed SSA NSC would not be constructed. The existing NCC would not be relocated and would continue to occupy the existing facilities in SSA Headquarters located at 300 North Green Street, Woodlawn, Maryland. The No Action Alternative fails to meet the purpose and need. Ultimately, it cannot support the needs for correcting operational deficiencies and providing increased space for current and future needs of the NCC. For these reasons, it is not considered a reasonable solution for satisfying the purpose and need for the Proposed Action as stated in Subchapter 1.2. However, it does provide a baseline against which to measure the potential impacts of the Proposed Action. Therefore, the No Action Alternative is evaluated in subsequent sections of this EA.

2.2 Site 132-Johnnycake Road

Site 132 is located in Woodlawn, Maryland in Baltimore County (**Figure 2**). The proposed site consists of approximately 120 acres. The land use is undeveloped and is comprised of fallow agriculture land, an abandoned golf driving range, and grassy fields. Rocky, forested, steep slopes with wetlands and streams occur towards the northern portion of the property. The site is accessed by Johnnycake Road with residential and commercial development to the east and south. The adjoining properties to the north are wooded lots, Dogwood Road, and several low density residential developments.

2.3 Site 135B- Urbana

Site 135B is located in Urbana, Maryland in Frederick County (**Figure 3**). The site is a 65 acre parcel comprised primarily of open, fallow farmland, old fields and some natural areas located within a 300 acre existing Business Park. Towards the south and east edge of the property, a stream and wetlands are

1 present. Access to the site is from Fingerboard Road, south of the Route 80 and Interstate 270
 2 interchange.

3 **Table 1. Environmental Resources Present**

Resource	No-Build Alternative	Site 132 Johnnycake Road	Site 135b Urbana
Historic Structures	No	Not present	Not present
Archeological Site	No	Present	Present
Farmland Soils	No	Present	Present
Streams, surface waters	No	Present	Present
Floodplains	No	Not present	Not Present
Wetlands	No	Present	Present
Woodland	No	Present	Not present
Threatened/Endangered Species	No	Not present	Not present
Hazardous Materials	No	Not present	Not present
Coastal Zone	No	Present	Not present
Aesthetics and Visual Resources	No	Not present	Not present
Ground Water	No	Present	Present
Air Quality	No	Present	Present
Noise Impacts	No	Present	Present

4

Figure 1: Regional Location Map

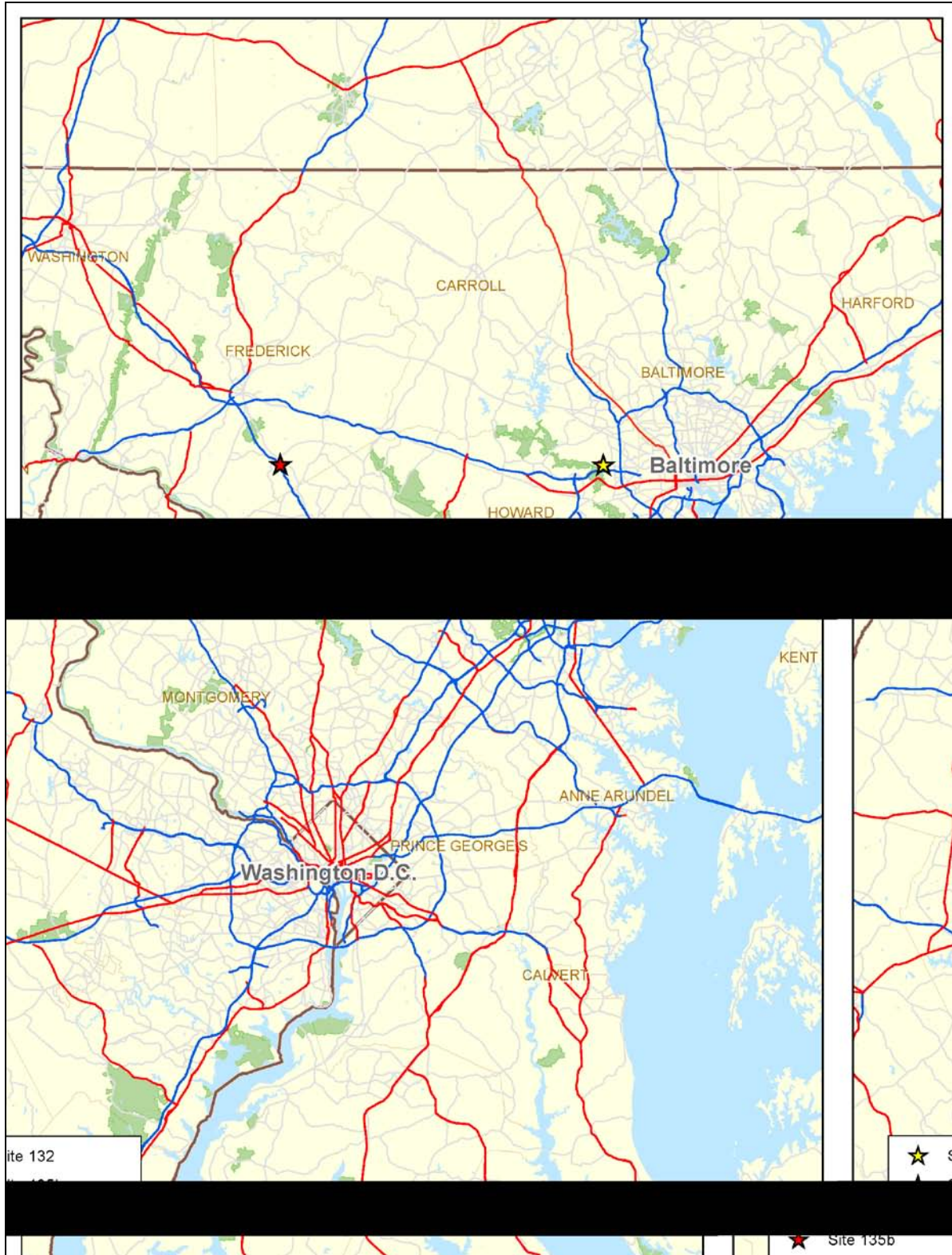
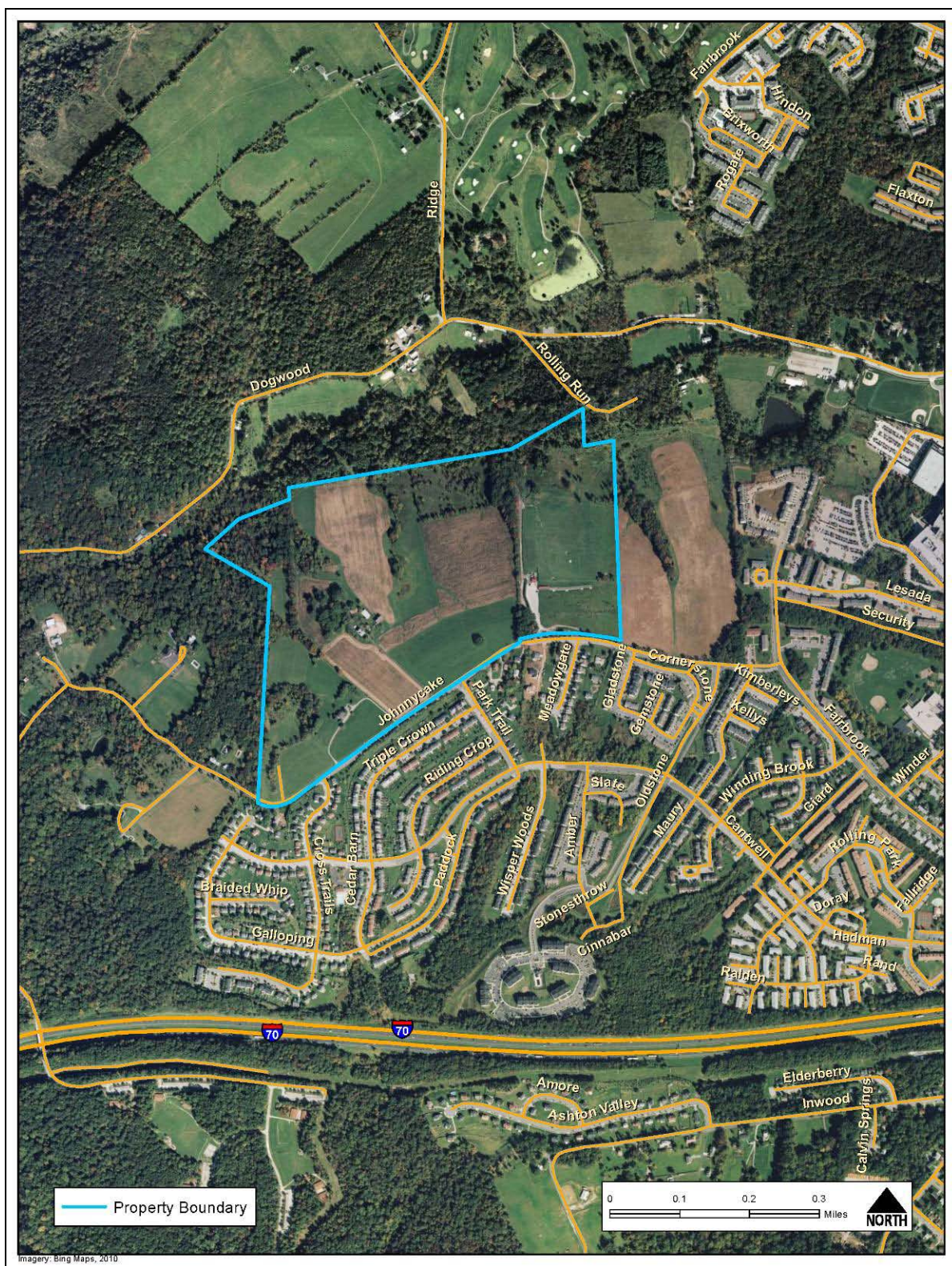


Figure 2: Site 132 - Johnnycake Road Location Map



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Figure 3: Site 135B Urbana – Project Location Map



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3.0 EXISTING ENVIRONMENT

This section describes the existing environment that may be affected by implementing the Proposed Action and serves as a baseline from which to identify and evaluate potential impacts. The description of the affected environment focuses on those resource areas that are potentially subject to impacts resulting from the Proposed Action. Based on data collection and site reconnaissance, **Table 2** identifies those resources determined to not be present, or were determined to have negligible impacts within the study areas. As a result, the resources in **Table 2** are not evaluated further in this EA.

Table 2: Resources Not Evaluated Further.

Resource	Site 132-Johnnycake Road	Site 135B-Urbana
Hazardous Materials	A Phase I Environmental Site Assessment (ESA) was conducted for the project area in August 2010. The Phase I ESA was prepared in accordance with ASTM Standard Practice for ESAs (E 1527-05), to evaluate the environmental risk associated with proposed project area. The Phase I ESA did not identify any potential Recognized Environmental Concerns (REC) for the proposed project site as cited in the Phase 1 ESA report.	A Phase I ESA was conducted for the project area in August 2010. The Phase I ESA was prepared in accordance with ASTM Standard Practice for ESAs (E 1527-05), to evaluate the environmental risk associated with proposed project area. The Phase I ESA did not identify any potential RECs for the proposed project site as cited in the Phase 1 ESA report.
Threatened and Endangered Species	Using the U.S. Fish and Wildlife Service (USFWS) Chesapeake Bay Field Office online list request certification resource, no threatened or endangered species or critical habitat is known to be present within the site.	Using the USFWS Chesapeake Bay Field Office online list request certification resource, no threatened or endangered species or critical habitat is known to be present within the site.
Groundwater	Groundwater is present within the project area; however, the activities associated with construction are not anticipated to impact groundwater. Several private wells were used for the former farmhouse but have been abandoned. The site would utilize public sewer and water.	Groundwater is present within the project area; however, the activities associated with construction are not anticipated to impact groundwater. The site would utilize public sewer and water.
Community Services	No public libraries, religious facilities, recreational facilities, educational or daycare facilities, are present within the study area; therefore, these services would not be impacted. Emergency services and mass transit are not anticipated to be adversely effected by the project.	No public libraries, religious facilities, recreational facilities, educational or daycare facilities, are present within the study area; therefore, these services would not be impacted. Emergency services and mass transit are not anticipated to be adversely effected by the project.
Historic Structures	No Historic Structures are present on site.	No Historic Structures are present on site.

This section defines each resource area to establish its context and general characteristics. It also includes a discussion of existing conditions and applicable regulations to define the relevant considerations applicable to this EA.

3.1 Natural Environment

3.1.1 Topography, Geology and Soils

3.1.1.1 Site 132- Johnnycake Road

1 Site 132 is characterized by upland flat (0-5% slope) landform comprised of primarily open, undeveloped
2 lands, agricultural areas, and an abandoned golf practice driving range. The site's elevation ranges from
3 380 feet to roughly 450 feet above sea level. The northern portion of the site contains forested, rocky,
4 hillslopes (5-15% slope), low-lying areas with several small streams and wetlands. The site drains to
5 Dogwood Run, which runs north of the proposed site.

6 Site 132 is located within the Piedmont Plateau physiographic province, which is characterized by rolling
7 to hilly uplands with broad, flat-bottomed to steep-walled valleys. This area is located within the
8 Gabbroic Series of the Eastern Piedmont Plutonic Rocks and is underlain by Early Paleozoic-Late Pre
9 Cambrian rocks of the Baltimore Gabbro Complex. These rock types consist of hypersthene gabbro with
10 olivine gabbro, norite, anorthositic gabbro, and pyroxenite (Maryland Geologic Survey 1968). Shallow,
11 hard bedrock in many areas of the project site is on or near the surface.

12 The soil underlying the site is from the Neshaminy-Lehigh-Glenelg Series and the Chrome Series.
13 According to The Natural Resources Conservation Service (NRCS) this property contains 11 soil series of
14 which five are partially hydric (NRCS, 2010). Soil descriptions are provided in **Table 3**.

15 Two prime farmland soils, Jackland silt loam (JaB 3-8% slope) and Legore silt loam (LeB 3-8% slope)
16 and one farmland of state wide importance soil, Legore silt loam (LeC 8-15% slope) are located within
17 the site. The Farmland Protection Policy Act (FPPA) protects prime farmland and statewide important
18 farmland soils, and considers prime farmland soils as those that have the best combination of physical and
19 chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and are also available
20 for these uses. It has the soil quality, growing season, and moisture supply needed to economically
21 produce sustained high yields of crops when treated and managed. This includes water management
22 according to acceptable farming methods. Soils of statewide importance are those soils that are nearly
23 prime farmland and that economically produce high yields of crops when treated and managed according
24 to acceptable farming methods. The Farmland Protection Policy Act (FPPA) was introduced to slow the
25 rate at which acres of farmland soil and the conversion of prime farmland soil to a non-agricultural use.
26 The FPPA is based on the protection of prime farmland soils and not on whether the area is in agricultural
27 use.

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Table 3: Site 132 Soil Series Descriptions

Soil Series	Prime/Statewide Important Farmland Soils	Description
Hatboro silt loam (HbA)	No	The Hatboro Series (HbA) is on 3 to 8 percent slopes. Soils are deep and poorly drained on floodplains. The surface layer is a black silt loam, which is typically up to 11 inches in depth. The subsoil is approximately 38 inches deep. Under the subsoil lies loam a greenish gray, micaceous, mottled loam. These soils can be used for crops but need artificial drainage. They are derived from greenstone, quartzite, phyllite, schist, and diabase. This soil has hydric inclusions.
Jackland silt loam (JaB)	Yes	The Jackland Series (JaB) are found on 3 to 8 percent slopes soils are deep, but somewhat poorly drained on toeslopes, footslopes, shoulders, and backslopes of drainages and flat areas. The surface layer is silt loam typically up to 8 inches in depth. These soils are formed from clayey residuum weathered from diabase and diorite and gabbro.
Legore silt loam (LeB)	Yes	The Legore Series (LeB) is on 3 to 8 percent slopes which are typically deep, well drained, and located on slopes and summits on upland areas. The surface layer is a very dark grayish brown to yellowish brown, silty loam, which is typically 8 inches in depth. The subsoil is approximately 17 inches deep and consists of a brown to yellowish red, silty clay loam to clay loam. These soils are formed from loamy residuum weathered from diabase. These soils are used for cultivated crops, pasture, and growing trees but have erosion issues.
Legore silt loam (LeC)	Yes	This Legore Series (LeC) is on 8 to 15 percent slopes which are deep, well drained, and located on upland hillslopes. The surface layer is a very dark grayish brown to yellowish brown, silty loam, which is typically 8 inches in depth. The subsoil is approximately 17 inches deep and consists of a brown to yellowish red, silty clay loam to clay loam. These soils are formed from loamy residuum weathered from diabase and gabbro. These soils are used for cultivated crops, pasture, and growing trees but have severe erosion issues.
Legore very stony silt loam (LfD)	No	The Legore (LfD) Series is on 15 to 25 percent slopes which are deep, well drained, and located on hillslopes. The surface layer is a very dark grayish brown to yellowish brown, silty loam, which is typically 8 inches in depth. The subsoil is approximately 17 inches deep and consists of a brown to yellowish red, silty clay loam to clay loam. These soils are formed from weathered diabase. Large stones make this soil unusable for cultivation, but may be used as pasture or for trees.
Legore silt loam (LfE)	No	The Legore Series (LfE) are found on 25 to 45 percent slopes which are deep, well drained, and located on upland hills. The surface layer is a very dark grayish brown to yellowish brown, silty loam, which is typically 8 inches deep. The subsoil is approximately 17 inches deep and consists of a brown to yellowish red, silty clay loam to clay loam. These soils are formed from weathered diabase and anorthosite. These soils are steep and rocky and are unsuited to crops or pasture.
Relay silt loam (ReD)	No	The Relay Series (ReD) are on 15 to 25 percent slopes which are deep and well drained on uplands and form from weathered rock such as metagabbro. The surface layer is dark olive grey silt loam approximately 5 inches in depth. Subsoil consists of approximately 15 inches of olive clay loam and underlying this is greenish sandy disintegrated rock. These soils can be stony and with steep slopes are only suited to trees and some cropland.

Soil Series	Prime/Statewide Important Farmland Soils	Description
Relay gravelly loam (RfD)	No	Relay gravelly loam (RfD) are on 15 to 25 percent slopes which are deep and well drained on uplands and form from weathered rock such as metagabbro. The surface layer is dark olive grey silt loam of 5 or more inches in depth. Subsoil consists of approximately 15 inches of olive clay loam and underlying this is greenish sandy disintegrated rock. These soils are very rocky and not suited to crops and are mostly utilized for pasture and woodland.
Watchung silt loam (WaB)	No	Watchung silt loam (WaB) is on 3 to 8 percent slopes which are deep and poorly drained on upland flats, footslopes, and depressions. The surface layer is dark grayish brown and light olive brown silt loam approximately 12 inches in depth. Subsoil is grey to dark grey silty clay approximately 30 inches deep. These soils are typically wet and poorly drained and contain gravels and cobbles so are seldom used for crops. Soils are typically used for pasture and growth of trees. This soil is listed as having hydric inclusions.
Watchung silt loam stony (WcB)	No	Watchung (WcB) are on 3 to 8 percent slopes which are deep and poorly drained on upland flats, footslopes, and depressions. The surface layer is dark grayish brown and light olive brown silt loam approximately 12 inches in depth. Subsoil is grey to dark grey silty clay approximately 30 inches deep. These soils are typically wet and poorly drained and contain gravels and cobbles so are seldom used for crops. Soils are typically used for pasture and growth of wetland trees. This soil is listed as having hydric inclusions.
Urban Land (UuB)	No	Urban land (UuB) is 0 to 8 percent slopes soils consist primarily of very gravelly sand, mostly used as sand and gravel pits.
Source: USDA NRCS, December 2010.		

3.1.1.2 Site 135B- Urbana

1 Site 135B is located within the Urbana Formation of the Western Piedmont Physiographic Province. The
2 Urbana Formation typically consists of phyllite or metasilstone. Soils in this region are generally residual
3 in nature, resulting from the chemical and physical weathering of the underlying parent material. The site
4 elevation ranges from 424 feet to 320 feet which consists of moderate rolling agricultural fields, pasture
5 and shrub lands. This site contains five soil series which are described in **Table 4**.

6 Farmland soils of statewide importance were identified, Linganore-Hyattstown (LyB, LyC) and a prime
7 farmland soil, Myersville gravelly silt loam (MuB). The FPPA protects prime farmland and farmland of
8 statewide importance, and considers prime farmland soils as those that have the best combination of
9 physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and are
10 also available for these uses. It has the soil quality, growing season, and moisture supply needed to
11 economically produce sustained high yields of crops when treated and managed, including water
12 management, according to acceptable farming methods. Soils of statewide importance are those soils that
13 are nearly prime farmland and that economically produce high yields of crops when treated and managed
14 according to acceptable farming methods. The Farmland Protection Policy Act (FPPA) was introduced to
15 slow the rate at which acres of farmland soil and the conversion of prime farmland soil to a non-
16 agricultural use. The FPPA is based on the protection of prime farmland soils and not on whether the area
17 is in agricultural use.

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Table 4: Site 135B Soil Series Descriptions

Soil Series	Prime/Statewide Important Farmland Soils	Description
Hyattstown-Linganore (HyD)	No	The Hyattstown Series (HyD) component makes up 60 percent of the map unit. Slopes are 15 to 25 percent. The parent material consists of gravelly residuum weathered from low base phyllite and/or gravelly residuum weathered from low base schist. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. The Linganore component makes up 50 percent of the map unit. Slopes are 3 to 8 percent. The parent material consists of gravelly residuum weathered from high base phyllite and/or gravelly residuum weathered from high base schist.
Linganore-Hyattstown channery silt loams (LyB)	Yes	The Linganore (LyB) component makes up 50 percent of the map unit. Slopes are 3 to 8 percent. The parent material consists of gravelly residuum weathered from high base phyllite and/or gravelly residuum weathered from high base schist. The natural drainage class is well drained. The Hyattstown component makes up 35 percent of the map unit. Slopes are 3 to 8 percent. The parent material consists of gravelly residuum weathered from low base phyllite and/or gravelly residuum weathered from low base schist.
Linganore-Hyattstown (LyC)	Yes	The Linganore Series (LyC) component makes up 50 percent of the map unit. Slopes are 3 to 8 percent. The parent material consists of gravelly residuum weathered from high base phyllite and/or gravelly residuum weathered from high base schist. The Hyattstown component makes up 35 percent of the map unit. Slopes are 8 to 15 percent. The parent material consists of gravelly residuum weathered from low base phyllite and/or gravelly residuum weathered from low base schist.
Myersville gravelly silt loam (MuB)	Yes	The Myersville (MuB) component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. The parent material consists of gravelly residuum weathered from granitic gneiss. Depth to a root restrictive layer 60 inches, bedrock, lithic. The natural drainage class is well drained.
Rohrersville-Lantz silt loam (RoB)	No	The Rohrersville Series (RoB) component makes up 60 percent of the map unit. Slopes are 0 to 8 percent. The parent material consists of loamy alluvium derived from greenstone and/or loamy colluvium derived from greenstone. Water movement in the most restrictive layer is moderately high. The Lantz component makes up 50 percent of the map unit. Slopes are 0 to 8 percent. This component is on depressions. The parent material consists of loamy colluvium derived from greenstone. The natural drainage class is very poorly drained. Soils have hydric inclusions.

Source: USDA NRCS, December 2010.

3.1.2 Wetlands and Waters of the United States

2 Executive Order 11990, protection of Wetlands, directs federal agencies to take action to minimize the
3 destruction, loss, or degradation of wetlands on their property and mandates review of proposed actions
4 on wetlands through procedures established by NEPA. It requires that federal agencies establish and
5 implement procedures to minimize development in wetlands. Wetlands provide many function and values
6 such as flood flow alteration, groundwater recharge/discharge, and fish and wildlife habitat.

3.1.2.1 Site 132- Johnnycake Road

7 Alternative 132 is located within the Gunpowder-Patapsco Watershed. On-site surface waters include
8 ephemeral channels, intermittent and perennial streams. Their sources of hydrology include groundwater,

1 springs/seeps and surface water runoff. These waters are tributaries to Dogwood Run. Dogwood Run is
 2 located north of the study area. Dogwood Run drains into the Patapsco River approximately 1 mile west
 3 of the project area. The Patapsco River is classified as Use IV (Recreational Trout Waters). Dogwood
 4 Run is designated as a Use I-P (Water Contact Recreation, and Protection of Non-tidal Warm-water
 5 Aquatic Life). NWI mapping does not indicate the presence of wetlands within the study area, however
 6 during the site field visit; wetlands and streams were identified. A wetland identification and delineation
 7 was conducted in August, 2010 in accordance with the Corps of Engineers Wetlands Delineation Manual,
 8 Technical Report Y-87-1 (Department of the Army Waterways Experiment Station, 1987) and
 9 supplemental guidance papers.

10 The investigation resulted in the delineation of 11 wetlands and 11 streams. The wetlands delineated are
 11 categorized as nontidal, palustrine emergent (PEM), palustrine scrub-shrub (PSS) and palustrine forested
 12 (PFO). A total of 1.065 ha (2.63 acres) of wetlands were delineated within the project site (**Figure 4**). The
 13 emergent wetlands were dominated by sweetflag (*Acorus calamus L.*) jack-in-the-pulpit (*Arisaema*
 14 *triphyllum*), umbrella sedge (*Cyperus strigosus*), jewelweed (*Impatiens capensis*), and sensitive fern
 15 (*Onoclea sensibilis*). Shrub species consisted of swamp smartweed (*Persicaria setacea*), green ash
 16 (*Fraxinus pennsylvanica*), and red osier dogwood (*Cornus serica*). Forested wetlands were dominated by
 17 American sycamore (*Platanus occidentalis*), green ash, and black willow (*Salix nigra*). A detailed
 18 description of the wetland identification and delineation, including methodology and wetland descriptions
 19 are included in the Wetland Identification and Delineation Report prepared for the project (TEC Inc.
 20 2010). A jurisdictional determination with the U.S. Army Corps of Engineers (USACE) has not been
 21 conducted for the delineated wetland boundaries on this site. If this site is selected, a field view would be
 22 coordinated to verify the jurisdictional boundaries of wetlands and Waters of the U.S.

23 The 11 streams delineated on Site 132 have a cobble or rocky bottom and are between a foot to 5 feet
 24 wide. Groundwater seeps provide the primary source of hydrology for these small channels, however the
 25 area appears to also receive a large amount of surface water runoff during major rain events. The streams
 26 originate from small seeps at the top of steep gradients and begin with no defined channel and develop a
 27 defined channel as they move down-gradient.

3.1.2.2 Site 135B-Urbana

28 Site 135B is located within the Lower Monocacy Watershed. NWI mapping indicated freshwater
 29 emergent wetlands surrounding the main branch of Bennett Creek, just south of the property. A wetland
 30 identification and delineation study was not conducted as part of this EA, however a wetland delineation
 31 completed in 2005 for the Urbana Corporate Center property by the Monocacy Land Company, LLC.
 32 This study identified the Waters of the U.S. and wetlands within the 200 acre Business Park. Surface
 33 waters identified are several small drainages and an unnamed tributary, which flow directly into the main
 34 branch of Bennett Creek, located south of the property. The surface waters on-site are ephemeral,
 35 intermittent and perennial streams. Bennett Creek flows into the Lower Monocacy Creek and is classified
 36 as Use I-P waters (Water Contact Recreation, and Protection of Aquatic Life). Wetlands were delineated
 37 bordering the small surface tributaries on site and surrounding the unnamed tributary. The wetlands
 38 consisted of nontidal, palustrine emergent (PEM) and, palustrine scrub-shrub (PSS) wetlands. A permit
 39 was obtained for development of this site and is included in **Appendix B**.

Figure 4: Site 132-Johnnycake Road Wetlands



Imagery: Aerials Express 2008

3.1.3 Floodplains

Executive order 11988, Floodplain Management, sets forth the responsibilities of federal agencies for reducing the risk of flood or damage to personal property, minimizing the impacts of flood loss, and restoring the natural and beneficial functions of floodplains.

3.1.3.1 Site 132-Johnnycake Road

Federal Flood Insurance Rate Maps (FIRM) indicates the site is located in an area of minimal flood hazard known as Zone X. Zone X defined by Federal Emergency Management Agency (FEMA) to be outside the 100- and 500- year floodplains. These areas are of minimal flood risk and outside the 0.2-percent-annual-chance floodplain (Map Panel 2400100359F).

3.1.3.2 Site 135B-Urbana

The Federal Flood Insurance Rate Map indicates a floodplain designated Zone A along the unnamed tributary to Bennett Creek (Map Panel 24021C0465D & 24021C0455D) which flows along the southeast margin of the property. Zone A is where no Base Flood Elevations (BFE) has been determined. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. Because detailed hydraulic analyses are not performed for such areas, no BFEs or depths are shown within this zone. Although BFE's are not provided, the developer is responsible for ensuring that new development within the Zone A areas are constructed using methods that will minimize flood damage. A 500- year floodplain is located to the east and southeast of Site 135B.

3.1.4 Coastal Zone Management

The Coastal Zone Management Act (CZMA) of 1972 as required by Section 307, provides assistance to states, in cooperation with federal and local agencies, for developing land and water use programs in the coastal zone. Maryland Department of the Environment (MDE) issued a determination that all activities authorized by MDE will be carried out in a manner consistent with the Maryland Coastal Zone Management Program (CZMP), as required by Section 307 of the Federal Coastal Zone Management Act of 1972, as amended. The determination also concluded that all proposed activities meeting the conditions of the MDSPGP-3 that do not require authorization from MDE are consistent with the State's Coastal Zone Management Plan, as required by Section 307 of the Coastal Zone Management Act. Activities within the following counties are not subject to this requirement: Allegany, Frederick, Garrett, Howard, Montgomery, and Washington.

3.1.4.1 Site 132-Johnnycake Road

Site 132 is located within the Maryland's designated coastal zone. Maryland's Coastal Zone Management Program was established in 1978 and consists of several state laws and regulatory programs, particularly compliance with the Maryland Tidal Wetlands Law and the Chesapeake Bay Critical Area Protection Program. The Maryland Department of Natural Resources (MDNR) is the lead agency to administer policies to protect Maryland's coastal resources. According to MDNR their program is currently being updated and their policies are not currently available for review (MDNR 2010).

The previous version of Maryland's Coastal Zone Management Program identified Critical Areas within Maryland's coastal zone to include all land within 305 meters (1,000 ft) of the Chesapeake Bay and tidal wetlands of its tributaries. Development within these areas must meet rules set by the Chesapeake Bay

Critical Area Commission. The Critical Area Management Program includes: a 30.5 meter (100 ft) buffer, non-tidal wetlands, significant plant and wildlife habitat, threatened and endangered species, anadromous fish spawning areas, and native trees and shrubs recommended for planting in the Critical Area. The goals of the Critical Area Protection Program are to:

- Minimize adverse impacts on water quality that result from pollutants that are discharged from structures, or conveyances or that have run-off from surrounding lands;
- Conserve fish, wildlife, and plant habitat in the Critical Area;
- Establish land use policies for development in the Critical Area that accommodate growth and also address the fact that even if pollution is controlled, the number, movement, and activities of persons in the Critical Area can create adverse environmental impacts.

Policies in the previous version of Maryland's Coastal Zone Management Program address:

- Non-tidal wetlands
- Provision of public access
- Non-point source pollution
- Coastal hazards
- Growth management
- Habitat and living resources.

It is anticipated that the policies in the new Maryland Coastal Zone Management Program will be similar to the previous version.

3.1.4.2 Site 135B-Urbana

This site is located within Frederick County and is not subject to the Coastal Zone Management activities.

3.1.5 Vegetation and Wildlife

3.1.5.1 Site 132-Johnnycake Road

This site is undeveloped, fallow farmland which includes grassy fields where an abandoned golf driving range was located. Portions of the land are not suitable for farming because of steep slopes or surface waters. Site 132 contains mixed shrub, woodland, and wetlands along the northern portion of the property. Dominant tree species in the forested area include red maple (*Acer rubrum*), American hornbeam (*Carpinus carolinian*), mockernut hickory (*Carya tomentose*), flowering dogwood (*Cornus florida*), American beech (*Fagus grandifolia*), and black gum (*Nyssa sylvatica*). A number of specimen trees (>30" diameter breast height [dbh]) were identified within the property. The fallow farmland historically produced crops such as corn and hay. The farmland and abandoned driving range provide limited wildlife habitat. Wildlife habitat is available in the wetlands, forests and streams. Common wildlife indicator species within these habitats are white-tailed deer (*Odocoileus virginianus*), eastern gray squirrel (*Sciurus carolinensis*), red fox (*Vulpes vulpes*), eastern cottontail (*Sylvilagus floridanus*), opossum (*Didelphis virginiana*), and raccoon (*Procyon lotor*). Herpfauna may include the eastern box turtle (*Terrapene carolina*), black rat snake (*Elaphe obsoleta*), American toad (*Bufo americanus*), and spring peeper (*Pseudacris crucifer*). A number of residential and migratory bird species were observed around the forested areas during site visits including mourning dove (*Zenaida macroura*), mockingbird

(*Mimus polyglottos*), American robin (*Turdus migratorius*), catbird (*Dumetella carolinensis*), and various sparrows (*Fringillidae*) and warblers (*Parulidae*). No threatened and endangered species were observed during the site visits. The unnamed tributary to Dogwood Run and its forested buffer help provide a greenway corridor to wildlife in this area.

According to the Maryland Department of Natural Resources website, Site 132 is not located within Green Infrastructure hubs or corridors for wildlife.

3.1.5.2 Site 135B-Urbana

Site 135B mainly consists of undeveloped fallow lands which have historically been in pasture farmland. Historical photographs indicate the site had been a dairy operation since the 1890's. A majority of wildlife found in or around the area would be those common residential species that use farmland and fallow fields to find food and cover such as the common white-tailed deer, raccoon, opossum and eastern gray squirrel. The areas which were too steep or wet to be farmed have remained naturally vegetated. The surface waters, vegetated buffers and the wetlands provide habitat to a variety of wildlife species such as common birds, amphibians, reptiles, mammals and fish. Low brush and trees line the small drainages and an area along the north end of the proposed site where a former farmstead was located. Plants located on the site include wild rose (*Multiflora rose*), greenbrier (*Smilax spp.*), poison ivy (*Toxicodendron radicans*), thistle (*Carduus spp.*), honeysuckle (*Lonicera japonica*), goldenrod (*Solidago spp.*), and other mixed grasses and herbaceous plants. Second growth forest borders the edges of the site. Trees include wild cherry (*Prunus avium*), pin oak (*Quercus ellipsoidalis*), locust (*Robinia pseudoacacia*), walnut (*Juglans nigra*), sycamore (*Platanus occidentalis*), cedar (*Juniperus virginiana*), and tulip poplar (*Liriodendron tulipifera*). Small, domesticated fruit trees possibly associated with a former orchard are located south of the former farmstead on a north facing slope. No threatened and endangered species were observed during the site visits. Riparian buffers associated with the unnamed tributary and Bennett Creek also provide habitat and migratory corridors for local wildlife species.

According to the Maryland Department of Natural Resources website, Site 135B is not located within Green Infrastructure hubs or corridors for wildlife.

3.1.6 Farmlands

3.1.6.1 Site 132- Johnnycake Road

The site was historically in agriculture production dating to the 1890's, with the exception of those areas which were too steep or wet to farm. Two former farmsteads were located on the site, but have been demolished. A portion of the site was converted to a golf driving range, which has been closed. With the exception of some concrete slabs from the area used by the golfers to tee off, the structures associated with the facility have been removed. The eastern 61 acres of the property is Zoned Business Major (BM)/ Industrial Major (IM) and the western 55 acres of the property is zoned Density Residential with 10.5 units per acre allowed.

Baltimore County does have an agricultural preservation program. However the site is not located within an agricultural preservation area (Baltimore County 2010).

As described in Section 3.1.1, two prime farmlands soils, Jackland silt loam (JaB) and Legore silt loam (LeB) and one farmland of state wide importance soil, Legore silt loam (LeC) are located within the site.

3.1.6.2 Site 135B- Urbana

This parcel was formerly a farmstead with the exception of those areas which were too steep or wet to farm. The site has a history of agriculture back to the 1890's as being a dairy farm but no surface structures remain as they have all been demolished. The site is currently not being utilized for agriculture and is within a 200 acre business park currently being developed. The surrounding area is designated by the county as a Commercial Growth Zone.

Frederick County does have an agricultural land preservation program, however the site is not located within an agricultural preservation area.

As described in Section 3.1.1, two farmland soils of statewide importance, Linganore-Hyattstown (LyB, LyC) and one prime farmland soil, Myersville gravelly silt loam (MuB) are located within the project site.

3.2 Man-Made Environment

3.2.1 Air Quality

Air quality in a given location is described by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of the pollutant concentration is determined by comparing it to the federal and state ambient air quality standards. The Clean Air Act and its subsequent amendments (CAAA) established the National Ambient Air Quality Standards (NAAQS) for what are commonly referred to as "criteria" pollutants:

- Ozone (O₃)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO₂)
- Sulfur dioxide (SO₂)
- Particulate matter (PM) less than 10 microns (PM₁₀)
- PM less than 2.5 microns (PM_{2.5})
- Lead (Pb).

These standards represent the maximum allowable atmospheric concentrations that may occur while ensuring protection of public health and welfare, with a reasonable margin of safety. Short-term standards (1-, 8-, and 24-hour periods) are established for pollutants contributing to acute health effects. Long-term standards (quarterly and annual averages) are established for pollutants contributing to chronic health effects.

Areas that comply with NAAQS are designated as attainment areas. Areas that violate ambient air quality standards are designated as non-attainment areas. Areas that have improved air quality from non-attainment to attainment are designated as attainment/maintenance areas. Areas that lack monitoring data to demonstrate attainment or non-attainment status are designated as unclassified and are treated as attainment areas for regulatory purposes.

3.2.1.1 Site 132-Johnnycake Road

The Region of Influence for this alternative is identified as the Metropolitan Baltimore Intrastate Air Quality Control Region (AQCR) defined in 40 CFR Part 81.28. This AQCR includes Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Harford County, and Howard County. The proposed NSC would specifically be located in Baltimore County.

The Metropolitan Baltimore Intrastate AQCR is classified (40 CFR 81.321) as:

- Nonattainment for PM_{2.5} (annual NAAQS)
- Unclassifiable/attainment for PM_{2.5} (24-hour NAAQS)
- Better than national standards for SO₂
- Unclassifiable/attainment for CO
- Subpart2/moderate nonattainment for 8-hour ozone
- Not designated for lead or PM₁₀
- Cannot be classified or better than national standards for NO₂.

The MDE published the Baltimore Nonattainment Area PM_{2.5} State Implementation Plan (SIP) and Base Year Inventory on March 24, 2008. This Plan is currently awaiting approval of the EPA.

The MDE published the Baltimore Nonattainment Area 8-hour Ozone SIP and Base Year Inventory on June 15, 2007. The complete Plan is currently awaiting approval of the EPA. An earlier SIP to address the now-revoked 1-hour ozone standard was published in 1998 and subsequently approved by EPA.

3.2.1.2 Site 135B- Urbana

This site is within the Central Maryland Intrastate AQCR defined in 40 CFR Part 81.155. This AQCR includes Frederick County. The Central Maryland AQCR is classified (40 CFR 81.321) as

- Nonattainment for PM_{2.5} (annual NAAQS)
- Unclassifiable/attainment for PM_{2.5} (24-hour NAAQS)
- Better than national standards for SO₂
- Unclassifiable/attainment for CO
- Subpart2/moderate nonattainment for 8-hour ozone
- Not designated for lead or PM₁₀
- Cannot be classified or better than national standards for NO₂.

The MDE published the SIP for Annual Fine Particle (PM_{2.5}) Standard and 2002 Base Year Inventory for the Washington DC-MD-VA Nonattainment Area on March 7, 2008. This Plan is currently awaiting approval by EPA.

The MDE published the SIP for 8-Hour Ozone Standard and 2002 Base Year Inventory for the Washington DC-MD-VA Nonattainment Area on May 23, 2007. The complete Plan is currently awaiting approval of the EPA. An earlier SIP to address the now-revoked 1-hour ozone standard was published in 1998 and subsequently approved by EPA.

Regulatory Requirements – Hazardous Air Pollutants

In addition to the ambient air quality standards for criteria pollutants, national standards exist for hazardous air pollutants (HAPs). The National Emission Standards for Hazardous Air Pollutants (NESHAPs) regulate 188 HAPs based on available control technologies. Examples of HAPs include benzene, which is found in gasoline, and methylene chloride, which is used as a solvent and paint stripper. Examples of other listed air toxics include dioxin, asbestos, toluene, and metals such as cadmium, mercury, chromium, and lead compounds. The majority of HAPs are VOCs.

Regulatory Requirements – New Source Review and Prevention of Significant Deterioration

As part of the CAAA of 1977, Congress established the New Source Review (NSR) program. This program is designed to ensure that air quality is not significantly degraded from the addition of new and modified factories, industrial boilers, and power plants. In areas with unhealthy air, NSR assures that new emissions do not slow progress toward cleaner air. In areas with clean air, especially pristine areas like designated Class I areas, NSR assures that new emissions do not significantly worsen air quality.

The construction activities associated with the Proposed Action are temporary and would not be an issue with regard to Class I PSD areas, nor would any new major sources (greater than 250 tons per year of any pollutant) be constructed as a result of the Proposed Action. Therefore, NSR and PSD requirements are not carried forward in the air quality analysis.

General Conformity Rule

Federal actions proposed to occur in areas that are classified as nonattainment or maintenance by the U.S. Environmental Protection Agency (USEPA) must demonstrate that emissions from the action would not exceed emission budgets established in a state's plan to attain or maintain the NAAQS. Both alternative locations are in areas that have been classified as nonattainment for ozone and for the annual PM_{2.5} NAAQS. Thus, the construction and operation emissions for the proposed NSC facility have been evaluated against the General Conformity Rule's *de minimis* thresholds and any applicable portions of the Maryland State Implementation Plan.

3.2.2 Noise

Noise is often defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, diminishes the quality of the environment, or is otherwise annoying. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by stationary or mobile sources. Sound levels are expressed in decibels (dB), usually weighted for human hearing (dBA). The daily operation of vehicles is considered a minor source of noise. Typically, the dB value for vehicle operations would range from 50 dB (for light traffic) to 80 dB for diesel trucks. Construction noise varies greatly depending on the construction process, type and condition of equipment used, and the layout of the construction site. Overall, construction noise levels are governed primarily by the noisiest pieces of equipment (dump truck, excavator, grader). Typically, the sound level attenuates or drops off at a rate of 6 dBA for each doubling of the distance (i.e., if the noise level is 85 dBA at 50 feet, it is 79 dBA at 100 feet) from a point source (USEPA 1971).

1 In addition to construction equipment noise, impacts due to vibrations generated by different types of
2 equipment have the potential to result in community annoyance. Community annoyance occurs when
3 construction vibration rises significantly above the threshold of human perception for extended periods of
4 time.

3.2.3 Land Use and Zoning

3.2.3.1 Site 132-Johnnycake Road

5 Site 132 is located along Johnnycake Road approximately 3 miles west of Woodlawn, Maryland. The
6 eastern 61 acres of the property is Zoned Business Major (BM)/ Industrial Major (IM) and the western 55
7 acres of the property is zoned Density Residential with 10.5 units per acre allowed. To the south of
8 Johnnycake Road the parcels are zoned Office Building Residential (OR 2) and Density Residential (DR
9 5.5). The eastern third of the proposed site was formerly the Chardonnay golf driving range, constructed
10 in 2005. Prior to this, this area was farmed as agricultural land. According to the current owner and results
11 of the field view, the area of the gravel drive and parking lot and the driving range had been previously
12 disturbed by filling and grading activities. The center third of the proposed site consists of a former
13 agricultural field that slopes gently north from Johnnycake Road. Steep hillsides (greater than 15%) slope
14 to the drainage on the west edge of this area. Two former farmsteads were located on the western portion
15 of the proposed site. These farms were constructed between the 1890s and 1908 and have been recently
16 demolished. Also located on the northern portion of the site are wooded areas, wetlands, stream
17 drainages, and grassy fields. Commercial development in the form of shopping malls, restaurants, banks,
18 and other commercial businesses, is located approximately ¼ to ½-mile to the east near the Route 695
19 interchange.

20 Baltimore County's original Master Plan, the *1980 Guideplan for Baltimore County* created specific
21 management zones and policies that included growth areas, urban centers, community conservation areas,
22 employment areas, and several kinds of rural management areas. Every ten years Baltimore County has
23 developed a new master plan. With new challenges and endeavors, Baltimore County has drafted a
24 *Master Plan 2020*. The new plan strives towards creating economic development and growth areas within
25 the Urban Rural Demarcation Line (URDL), improving the built environment while strengthening its
26 natural environmental resources and protection. The URDL separates areas in the county that receive
27 public water and sewer infrastructure, with those that rely on private well and septic systems. Areas inside
28 the URDL can accommodate development, including employment, retail, and residences while the areas
29 outside are reserved for agricultural, natural resource protection and low density rural residential
30 development.

3.2.3.2 Site 135B-Urbana

31 Site 135B is located ½ mile directly south of Urbana, Maryland. Urbana and is located half way between
32 the City of Frederick and Montgomery County. The site is designated one of Frederick's Unincorporated
33 Growth Areas and zoned Mixed Use development (MxD). It is also along the I-270 Growth Employment
34 Corridor. The site formerly was a farmstead but is now within a 200 acre commercial businesses park
35 currently undergoing development. The community consists of primarily typical businesses like the new
36 Fannie Mae Technology Center building which employs about 250 people and Banner Life Insurance also
37 near the proposed site north of the Fannie Mae Center.

Urbana Pike (formerly MD 355) runs just east of the site and Interstate 270 parallels the site to the west. The Urbana area has been the location of considerable growth over the past 10-15 years and is anticipated to continue to grow based on the number of planned dwelling units and amount of available commercial property. Urbana has a population of approximately 6,705 and is project by the year 2020 to be 30,650 (Frederick County, 2010).

3.2.4 Transportation and Traffic

3.2.4.1 Site 132- Johnnycake Road

The proposed GSA facility site development is located directly adjacent to Johnnycake Road with access service only from Johnnycake Road. Johnnycake Road is a two-lane roadway. Major arterials and interstates nearby include the intersection of I-695 and Interstate 70. It is about ½ mile from Security Boulevard, which currently does not provide direct access. From the west, the site is accessible from Johnnycake Road and Hollofield Road. Access from the east is gained from the Johnnycake Road and Fairbrook Road.

A traffic study was conducted at Site 132 to determine existing traffic volumes. The capacity analyses were performed utilizing the Highway Capacity Software, based on the methods outlined in the Year 2000 version of the Highway Capacity Manual (HCM) as published by the Transportation Research Board. The results of the capacity analyses are expressed as levels-of-service (LOS), a qualitative measure of traffic flow. There are six LOS that are defined by letters A through F. LOS A represents the highest quality of operating conditions, while LOS F represents the worst. LOS D is generally considered acceptable. ITE Trip Generation was used to calculate the estimated trips that the proposed office would produce. Land Use Code 715 – Single Tenant Office Building was used in calculating the number of generated trips as summarized below.

Manual traffic counts were conducted at the three existing intersections (Johnnycake Road and Hollofield Road, and Johnnycake Road and Fairbrook Road, and Johnnycake Road and Greengage Road) and one proposed intersection (Johnnycake Road and the proposed site drive) to determine existing traffic volumes. The traffic counts were conducted during the AM (6:30 to 9:00) and PM (4:00 to 6:00) weekday peak period.

Traffic analyses based on existing roadway and traffic conditions showed the following level of service at each intersection studied:

- Johnnycake Road/Hollofield Road intersection, the Hollofield Road approaches operate in free-flow LOS A conditions, while the Johnnycake Road (stop-controlled) approach operates in LOS F.
- Johnnycake Road/Fairbrook Road intersection, the Fairbrook Road approaches operate in free-flow LOS A conditions, while the Johnnycake Road (stop-controlled) approach operates in LOS B.
- Fairbrook Road/Greengage Road intersection, the Fairbrook Road approaches operate in free-flow LOS A conditions, while the Greengage Road (stop-controlled) approach operates in LOS B.

3.2.4.2 Site 135B-Urbana

Site 135B is located within the Urbana Office Research Center (ORC) which provides planned access to the site. The site is accessible only from Fingerboard Road in the north. The site is within a mile from the Interchange of I-270 and Route 80. Traffic within this area is minimal and limited to the local traffic to the businesses within the ORC.

3.2.5 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires that projects using federal funds, permits, or licenses take into account any potential adverse effects on historic properties, (i.e., any prehistoric or historic building, site, structure, district, or object listed, or eligible for listing, on the National Register of Historic Places [NRHP]). Because this project will use federal funds, it is necessary to identify historic properties within the project's Area of Potential Effects (APE), assess the effects of the project on historic properties, and consult with the Maryland Historical Trust (MHT), regarding the findings. The following sections present the results of these efforts.

3.2.5.1 Archaeology

The NHPA of 1966 requires federal agencies to allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment whenever their undertakings may affect resources that are listed, or potentially eligible for listing, on the NRHP. The NHPA also requires federal agencies to identify, evaluate, inventory, and protect NRHP resources (or resources that are potentially eligible for listing on the NRHP) on properties that they control. The governor of each state appoints a State Historic Preservation Officer (SHPO) who is responsible for the administering cultural resources programs within a given jurisdiction. The Maryland Historical Trust serves as the State Historic Preservation Office. Prior to the approval of an expenditure of any federal funds for an undertaking that may affect a NRHP resource; the General Services Administration initiates consultation procedures with the respective SHPO in accordance with NHPA. Consultation with Native American authorities is not necessary for the Proposed Action because there are no federally recognized Native American tribes in the state of Maryland.

3.2.5.1.1 Site 132-Johnnycake Road

Phase I Archaeological Investigations were conducted on Site 132 during the months of August and September 2010. Prior to commencement of fieldwork at Site 132 background research was conducted in the archaeological site files at the MHT Library. Review of MHT files indicated there are no previously identified archaeological sites located within the boundaries of the APE defined for Site 132 (**Figure 5**). Two historic archaeological sites are located approximately ½-mile east of Site 132. Both sites have been previously determined to be not eligible for listing in the NRHP.

Background research identified three archaeological surveys have been previously conducted within 2 miles of the current APE. A *Phase I Archaeological Survey for the Proposed Health Care Financing Administration Office Facilities at Woodlawn, Baltimore County, Maryland* report was prepared for GSA

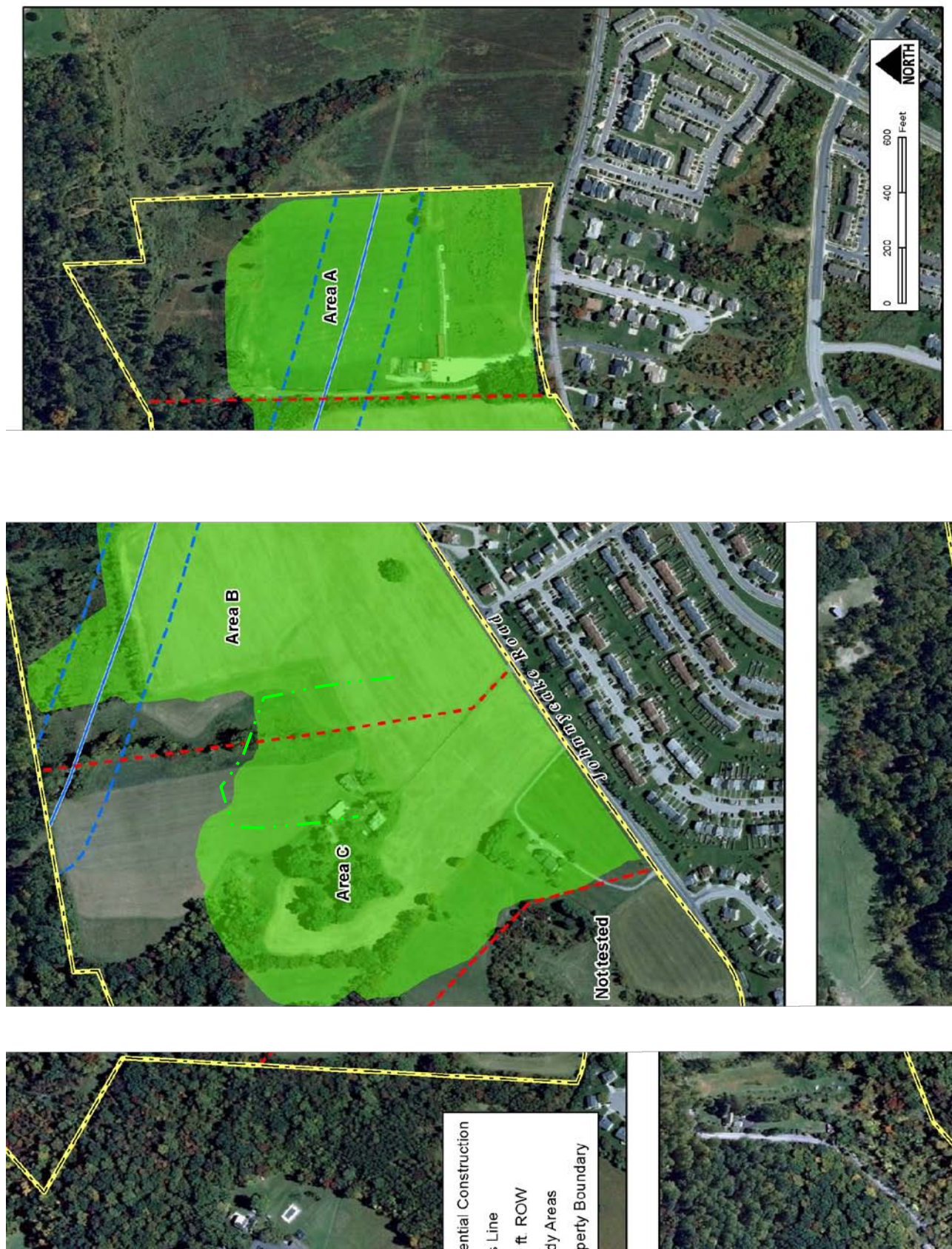


Figure 5: Site 132- Area of Potential Effect

to assess the effects of a new Health Care Financing Administration facility in Woodlawn. This survey resulted in the discovery of two historic sites that were recommended not eligible for listing in the NRHP. A Phase IA Archeological Assessment was conducted for the *Red Line Corridor Transit Study, Baltimore City and Baltimore County, Maryland*, which assessed the potential for archaeological sites within the project's proposed alignments. A survey of the state's soapstone quarries was undertaken in 1980 and resulted in the identification of three deposits or outcrops of serpentine that have been identified within 1 mile to the south of Site 132 (Brown 1980). Soapstone, a material utilized by prehistoric Native Americans, may be located within these serpentine deposits. The location of these deposits indicates the possibility that soapstone was being quarried by Native Americans nearby and that soapstone artifacts or debris from the manufacture of soapstone artifacts may be located on this site.

As part of the current studies, a Phase I survey was conducted within the APE and included the excavation of 16 shovel test pits (STPs) per acre at 15-meter (50-foot) intervals. The field investigations identified three archaeological sites located within the APE. The first site is the Oak Tree site, which is an 19th Century Farmstead site that was utilized until its demolition or decay in the mid 20th Century. This site was recommended not eligible for listing on the NRHP.

The second identified archaeological site within the APE is the Kalb Farm Site, a 19th century farm site utilized until the early 21st century. The Kalb Farm Site is located on a wooded lot in the middle of agricultural fields north of Johnnycake Road. Structures including a house, barns, garage, and other out buildings were located on the site from the mid to late 19th century until they were demolished between 2009 and 2010. This site was recommended not eligible for listing on the NRHP.

The third identified archaeological site within the APE is the Kemfer Farm Site. The Kemfer Farm Site is a 19th century farm house that was active until the early 21st century. An older, mid to late 19th century portion of the farmstead was located on the northwest slope of the property and barns were located on the northeast slope, while a 20th century ranch house was formerly located at the front of the property. This site was recommended not eligible for listing on the NRHP.

In addition, a background search indicated that there were two previously inventoried architectural resources located within ½-mile of Site 132 (**Table 5**). Dogwood Road Bridge (BA-2850) is located approximately ½-mile west of the project area and carries the road over Dogwood Run. This 1929 concrete rib arch bridge was determined to be eligible for the NRHP under criteria A and C in 2001. Bridge B-54, Old Frederick Road Steel Bridge, BA-1575, is located approximately ½-mile southwest of Site 132. This steel truss bridge carries Old Frederick Road over the Patapsco River and has been previously determined to be eligible for the NRHP in 2001.

Table 5. Inventoried Architectural Resources within ½ mile of Proposed Site 132

Resource Number	Name	NRHP Status
BA-2850	Dogwood Road Bridge	Eligible (2001)
BA-1575	Old Frederick Road Steel Bridge	Eligible (2001)

3.2.5.1.2 Site 135B-Urbana

Phase I Archaeological Investigations were conducted on Site 135B during September 2010. Prior to commencement of fieldwork at Site 135B background research was conducted in the site files at the MHT Library. The APE defined for this site was the entire project site as depicted on **Figure 3**.

A review of archaeological files housed at the MHT indicated that no previously identified archaeological sites were present within the APE. However several archaeological sites, both prehistoric and historic, were located within two miles of the proposed project area. These sites are listed in **Table 6**.

Table 6. Archaeological Sites within 2 miles of Proposed Site 135B

Site No.	Site Name	Results	NRHP Status
Prehistoric Sites			
18FR229	Big Woods Road	Early, Mid, and Late Archaic & Mid Woodland short-term camp	Not evaluated
18FR242	Arnold	Prehistoric lithic scatter	N/A
18FR303	Kanode	Early Woodland lithic scatter	Not evaluated
18FR620	Trail	Prehistoric lithic scatter	Not evaluated
18FR621	Thurston Road I	Prehistoric lithic scatter	Not evaluated
18FR622	Thurston Road II	Prehistoric lithic scatter	Not evaluated
18FR623	Dixon Road	Possible Archaic short-term camp	Not evaluated
18FR624	Route 355	Late Archaic short-term camp; historic scatter	Not evaluated
18FR625	Thorobred	Prehistoric lithic scatter	Not evaluated
18FR626	Big Woods	Prehistoric lithic scatter	Not evaluated
18FR733	11-1	Late Archaic short-term camp	Not eligible
18FR747	Site 7	Late Archaic lithic scatter	Not eligible
Historic Sites			
18FR725	N/A	Historic remains 19 th C.	N/A
18FR727	N/A	Historic remains	N/A
18FR728	N/A	Historic farmstead	Not eligible
18FR729	UR2-1	19 th C. Dudderer Farmstead	Not eligible
18FR730	3-1	Late 19 th /Early 20 th C. domestic	Not eligible
18FR731	N/A	Historic tenant house possible 18 th C.	N/A
18FR732	N/A	Historic posthole/mold and sheet midden	N/A
18FR746	Site 5	19 th C. tenant house Woodland artifact scatter	Not eligible
18FR825	Tom's Fortune	Late 19 th C. foundation and wall	Not evaluated
18FR847	N/A	18 th -19 th C. cemetery	N/A
18FR869	N/A	Historic house and outbuildings	N/A

In addition to the recorded archaeological sites, thirteen archaeological surveys have been conducted within 2 miles the proposed site.

A Phase I survey was conducted for the Baltimore Gas and Electric Company pipeline in 1988. This line runs to the southwest of the proposed site and identified fourteen prehistoric sites. Three of the sites, 18FR617, 618, and 628, yielded projectile points, bifaces, blades, and choppers, indicating more intensive occupation. These three sites were recommended for Phase II testing (Ballweber 1988). No additional information is available on the results of the Phase II testing.

A Phase I survey was conducted for the Frederick County Landfill and Recycling Center near Bush Creek, south of the city of Frederick. A stone wall associated with a former property boundary was discovered, however, no archaeological sites were discovered (Cherubin and Comer 2004).

A survey was completed for the proposed Urbana Sewer and Water Connector between Bush Creek and the Monocacy River. An historic mill site on Bush Creek, site 18FR698, was recorded but was bypassed during construction (Child et. al. 1996). A survey was conducted for the planned Urbana District Park

and identified a nineteenth and early twentieth century agricultural site that may have been associated with the adjacent Elisha Beall House/Boxwood Farm (F-7-060) (Child et. al. 2007).

A survey was conducted for the Frederick County Division of Utilities and Solid Waste Management. One of these projects identified an historic site, 18FR825, which consisted of a nineteenth century house foundation, yard deposits, and a road trace (Comer and Katz 2005).

A portion of a Phase I survey associated with the realignment of Route 80 was conducted by Dennis Curry (1978) in the fields just north of the APE. No archaeological sites were discovered; however, a quartz notched projectile point was recovered from the field approximately 1,200 feet north of the northern boundary of the proposed site. No additional work was recommended in this area (Curry 1978).

Site 18FR746 is a mixed Woodland scatter and 19th century domestic site discovered during the I-270/U.S. Route 15 Multi-Modal Corridor Study. The site has been determined not eligible for listing in the NRHP (Fiedel et. al. 2000). Phase II evaluations at the Burgee Springhouse, 18FR725, revealed evidence of early nineteenth century cultural occupation of the site. This site was determined to retain sufficient integrity and research potential to be listed on the NRHP under Criterion D (Grose et. al. 2002).

Eight previously unrecorded sites, 18FR725, 18FR727, 18FR728, 18FR729, 18FR730, 18FR731, 18FR732, and 18FR733 were located during a Phase I survey of the proposed Villages of Urbana Planned Unit Development, which is located north of the proposed site. Three of these sites, 18FR729, 731, and 732, were recommended to be evaluated through Phase II testing (Fehr and Armstrong 1998). Site 18FR731 revealed evidence of late eighteenth to early nineteenth century remains; however, it was determined that the site did not retain enough integrity to be significant under Criterion D (Roth and Heidenrich 2003). Excavations at Fat Oxen, site 18FR732, recovered evidence of late eighteenth through twentieth century occupation of this extant resource. The site was evaluated and determined not eligible for listing in the NRHP (Paonessa and Kiernan 1999). No additional information is available for excavations at Site 18FR729.

Site 18FR624 is a Late Archaic resource procurement site located east of the proposed site. It is located on an upper terrace above Bennett Creek and produced lithic debitage as well as a Brewerton side-notched point and an historic scatter. This site has not had its NRHP status determined. Site 18FR625 is located east of the proposed site and is an unknown prehistoric lithic scatter. The NRHP status of this site is unknown.

An Archeological Resources Assessment of the Monocacy River Region, Frederick and Carroll Counties, Maryland: Phase I and II was conducted by Donald Peck in 1979. This study assessed the potential for the discovery of archaeological sites based on the analysis of various collections and literature from these areas. Peck discovered a pattern of site distribution in this area based on proximity to stream confluences, stream rank, soil permeability, type of landform, and slope.

As part of the current studies, a Phase I survey was conducted within the APE in 2010. On-site investigations included excavating 16 shovel test pits (STPs) per acre at 15-meter (50-foot) intervals. One historic site, the Strube Farm Site, was discovered in Area B. This site consists of the disturbed remains of a late nineteenth through twentieth century farm (Locus 1) and the possible structural remains of a mid-nineteenth century farmstead (Locus 2). It is unknown at what point the farm at Locus 2 was destroyed, however, the farm at Locus 1 was demolished sometime between 1994 and 2005 (Google Earth). There is

fairly substantial documentation of the Locus 1 farm on historic maps and aerial photographs, as well as the knowledge of its owners through deed research. In addition, the large amount of disturbance created during demolition of Locus 1 leaves no intact remains of the house and the majority of the outbuildings. No additional testing is recommended.

Limited structural remains are associated with the Locus 2 farm, including possible foundations of a large barn and a second barn or outbuilding. Testing in and around these remains failed to produce artifacts in large quantities or domestic artifacts related to the presence of a house. Maps indicate that the remains of the original farmhouse for Locus 2 were located under what is now I-270 and that they were destroyed during the construction of the highway. It is not anticipated that additional artifact recovery or information pertaining to the construction of the farm's outbuildings would provide new information pertinent to the history of nineteenth century Frederick County. It is TEC's recommendation that the Strube Farm Site (Loci 1 and 2) is not eligible for listing on the NRHP and that no additional testing is necessary.

Additional background research in the structures files at MHT show that there was one previously inventoried architectural resource, F-7-020, located within the boundaries of Site 135B. This resource and its accompanying outbuildings were demolished between 1995 and 2005. One additional previously inventoried architectural resource, the John F. Simmons Farmstead (F-7-081), is located approximately ½-mile west of Site 135B (**Table 7**).

Table 7. Inventoried architectural resources within ½ mile of Proposed Site 135B

Resource Number	Name	NRHP Status
F-7-020	Andrew Strube House	Demolished
F-7-081	John F. Simmons Farmstead (High Hope)	Eligible

3.2.6 Aesthetic and Visual Resources

Aesthetic integrity can be an important environmental component of a site, particularly if the site is in a historic or wilderness setting. It is important to note that aesthetic quality is subjective; what is visually pleasing to one person may not be pleasing to another.

3.2.6.1 Site 132-Johnnycake Road

The aesthetic environment in and around the proposed project area is an urban setting to the south of the site, with a mix of residential and commercial development, and a rural setting with little development to the north and west. The aesthetic quality of the site is considered to be moderate.

3.2.6.2 Site 135B-Urbana

The aesthetic environment in and around Site 135B is primarily rural farmland, bounded by Interstate 270 to the west and some commercial development to the north. The current aesthetic quality of the site is considered to be high.

3.2.7 Socioeconomics

Socioeconomics comprise the basic attributes of population and economic activity within a particular area and typically encompass population, employment and income, and housing. Impacts on these fundamental socioeconomic resources can influence other components such as provisions of public services.

Executive Order (EO) 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” directs federal agencies to incorporate environmental justice into its mission and activities. Federal agencies are to accomplish this by conducting programs, policies, and activities that substantially affect human health or the environment in a manner that does not exclude communities from participation in, deny communities the benefits of, or subject communities to discrimination under such actions, because of their race, color, or national origin.

EO 13045, “Protection of Children from Environmental Health Risks and Safety Risks,” requires each federal agency to identify and assess environmental health and safety risks to children. “Environmental health and safety risks” are defined as “risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest.”

Environmental Justice considers low-income or minority populations in the community and whether the Proposed Action alternatives may have a disproportionately high adverse impact on human health or environmental effects on those populations. Environmental Justice evaluations are performed in accordance with Executive Order 12898. In addition to Environmental Justice populations, Executive Order 13045, “Protection of Children from Environmental Health Risks and Safety Risks,” requires each federal agency to identify and assess environmental health and safety risks that may disproportionately affect children.

3.2.7.1 Site 132-Johnnycake Road

Economic and demographic data for Woodlawn, Baltimore County, and the State of Maryland are included in **Tables 8 and 9** respectively. The data in these tables indicate that the majority of the population in the vicinity of the site is above poverty level and is considered to be a minority group.

Table 8: Income Data¹ for Site 132

	Woodlawn	Baltimore County	Maryland
Median household income	60,842	63,043	70,005
Median family income	71,037	77,368	84,126
Per capita income	27,164	33,336	34,508
<i>Source: U.S. Census Bureau 2010a.</i>			
<i>Note: 1. 2008 inflation-adjusted dollars.</i>			

Table 9: Demographic Data for Site 132

	Woodlawn	Baltimore County	Maryland
Minority	72.0%	31.7%	38.8%
Hispanic or Latino	4.3%	3.0%	6.4%
Under the Age of 18¹	23.8%	22.4%	24.1%
<i>Source: U.S. Census Bureau 2010a.</i>			
<i>Note: 1. Any Race.</i>			

3.2.7.2 Site 135B-Urbana

Economic data and demographic data for Urbana, Frederick County, and the State of Maryland are included in **Tables 10 and 11** respectively. The data in these tables indicates the majority of the population in the vicinity of the site is above the poverty level. The data also indicates that only fourteen percent of the population is considered to be minority.

Table 10: Income Data¹ for Site 135B

	Urbana ²	Frederick County	Maryland
Median household income	67,045	79,002	70,005
Median family income	69,020	92,695	84,126
Per capita income	26,347	34,570	34,508
Source: U.S. Census Bureau 2010a, 2010b. Note: 1. 2008 inflation-adjusted dollars. 2. 2000 data are the latest available, 1999 dollars.			

Table 11: Demographic Data for Site 135B

	Urbana ¹	Frederick County	Maryland
Minority	14.4	16.8	38.8%
Hispanic or Latino	0.9	5.6	6.4%
Under the Age of 18²	22.1	25.9	24.1%
Source: U.S. Census Bureau 2010a, 2010b. Note: 1. 2000 data are the latest available. 2. Any Race.			

3.2.8 Infrastructure and Utilities

3.2.8.1 Site 132- Johnnycake Road

Electrical Power

Currently, electric power is supplied to the Woodlawn area by Baltimore Gas and Electric (BGE). BGE meets the energy needs of Central Maryland for more than 1.2 million business and residential electric customers. In 1999, Constellation Energy Group began operations as the holding company for BGE and its affiliates, which generate more than 6,200 megawatts of electricity. Electric power to the site would be provided by two existing circuits which run down Liberty Road. The existing electrical poles would need to be replaced and upgraded in order to support the new circuits. Communication facilities are currently available along the Johnnycake Road frontage but are most likely not adequate to serve the proposed development of the site.

Natural Gas

Current gas is supplied to the area by BGE. BGE meets the energy needs of Central Maryland for more than 630,000 gas customers. A four-inch high pressure gas line is located along Johnnycake Road. A major 26-inch natural gas line owned by BGE crosses the northwest portion of Site 132.

Potable Water

Potable water to Woodlawn is provided by Baltimore City. The Water System's consumers include over 1,800,000 individuals and numerous businesses, industries and institutions in Baltimore City, Baltimore County, Howard County, and Anne Arundel County. In addition, the City provides raw water supplies to Harford County and Carroll County. The City's water system is the largest in the State of Maryland and one of the largest in the Country. A 12-inch water line is located along Johnnycake Road.

Sewer

Public sewer is supplied to Johnnycake Road and to the southern boundary of the site in a gravity system, which runs through the residential areas located to the south of the site. The sewer is maintained and

1 supplied by Baltimore County. Due to the topography of the site, a new lift/pump station would need to
2 be installed for the project which would then be connected to the existing sanitary sewer.

3.2.8.2 Site 135B-Urbana

3 Electrical Power

4 There is currently no electrical power to the proposed site. Allegheny Power distributes electricity to the
5 Urbana area. Allegheny Power controls or owns over 9,756 megawatts (MW) of generating capacity
6 which has provided to about 1.5 million customers in Maryland, Pennsylvania, and West Virginia. This
7 site would be fed from an existing feeder from the Lime Kiln substation and a new feeder from
8 Montgomery substation. These feeders would be served from circuits that run down Urbana Pike via the
9 Fannie Mae substation. New communication lines would be installed in a similar routing as the existing
10 Fannie Mae system.

11 Natural Gas

12 There is currently no gas to the proposed site. Washington Gas is the primary natural gas supplier to
13 customers in the District of Columbia, Maryland and Virginia. An existing four-inch 50 psi gas line
14 provides service to the Fannie Mae Data Center. This line is available for a tie-in. An eight-inch 400 psi
15 steel gas feeder main line is located along the southern edge of the property along the stream and contains
16 a 40 ft. easement.

17 Potable Water

18 There is currently no water line to the proposed site. The County of Frederick's *Division of Utilities and*
19 *Solid Waste Management* handles the water system for this region. In 2009, Frederick County produced a
20 total of 1.61 billion gallons of water at 13 treatment plants. Most (88%) was produced at the New Design
21 Road Plant which uses the Potomac River as its source of water. The remainder was produced at
22 numerous treatment plants using groundwater sources. Water is provided through the County's New
23 Design System, which has sufficient treatment capacity to accommodate future proposed residential and
24 commercial development. A 16-inch water main line runs to the existing Business Park development and
25 is available for an extension and tie-in by the developer.

26 Sewer

27 There is currently no sewer line to the proposed site. The County of Frederick's Division of Utilities and
28 Solid Waste Management operates the sewer system for this region. Public services are available to
29 Urbana corporate and northern portion of I-270 Employment Corridor, via connections to the County's
30 Ballenger/McKinney Wastewater Treatment Plant and the New Design Water Treatment Plant. For this
31 site a new lift/pump station has already been designed and would be installed by the developer. This
32 would also include an eight-inch sanitary line which would be installed up to the property line. This
33 lift/pump station will be maintained by the utility. Additionally, the I-270 Employment Corridor will be
34 served by a series of at least three sewage pump stations providing service to industrial and
35 office/research land uses between Urbana and the Montgomery County line.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter presents an analysis of the potential impacts upon various components of the environment that could result from the Proposed Action. Cumulative impacts are also analyzed for each resource within Chapter 4. In addition to this project, other past, present and reasonably foreseeable projects have been identified for each site and are the projects that were considered for cumulative impact assessment. Past, present and reasonably foreseeable projects associated with Site 132 include previous development of a driving range, which has been demolished, and the Maryland Transit Administration Red Line Transit Project, which is an existing project that includes a development of an east-west transit line connecting several areas including Woodlawn. Past, present and reasonably foreseeable projects associated with Site 135B include the previous and future development of the Urbana ORC.

4.1 Natural Environment

4.1.1 Topography, Geology and Soils

4.1.1.1 No Action Alternative

The geology, topography, and soils would remain the same as they are today and construction of the NSC would not take place. Therefore, no changes or impacts to geology, topography or soils would occur. The No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to geology, topography, and soils.

4.1.1.2 Site 132-Johnnycake Road

Implementation of this alternative would require excavation and grading associated with construction activities. Certain locations of bedrock material would require blasting. Blasting is anticipated to be necessary at this site and would have minor impacts to the geological formations associated with Site 132. An approved erosion/sediment control plan (E&S) would be required before construction starts to manage soil erosion and prevent siltation entering wetlands and Waters of the U.S. The E&S control plan should contain BMPs to minimize point pollution discharges to surface waters, preserve stream channels and water quality. A stormwater management plan approval would also be required to control the rate of stormwater runoff from newly disturbed areas during construction. These activities would result in minor disturbance to soils within the project site, as well as minor changes in site topography. Prime and statewide farmland soils were identified within the site. Coordination with the NRCS took place for a Land Evaluation and Site Assessment (LESA). In accordance with FPPA, completion of an AD-1006 form is required if the site is not located in an urban area. Since the site is located in an urban area, the AD-1006 form is not required. Additionally, localized impacts to geology on site due to blasting are anticipated to be minor; therefore impacts to topography, geology, and soils are not anticipated to be significant. Implementation of the Proposed Action at this site in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative impacts to soils.

4.1.1.3 Site 135B-Urbana

Implementation of this alternative would require excavation and grading associated with construction activities. These activities would result in minor disturbance to soils within the project site. An approved erosion/sediment control plan (E&S) would be required before construction starts to prevent siltation

from active construction zones. The E&S control plan should contain BMPs to minimize point pollution discharges to surface waters, preserve stream channels and its water quality. A stormwater management plan approval is also required by controlling the rate of stormwater runoff from newly disturbed areas during construction. Construction activities would have no direct impacts on geological formations at the location. Proper erosion and sedimentation plans would be developed and followed during construction to minimize impacts to soils. Therefore, there would be no significant impacts to topography and soils. Hydric and prime farmland soils were identified. Implementation of the Proposed Action at site 135B would impact prime and/or statewide important farm soils. An AD-1006 form was completed in compliance with the FPPA. The complete form is included as **Appendix C**. Although minor impacts to these soils types would occur due to construction and conversion, Site 135B in conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse cumulative impacts to soils.

4.1.2 Wetlands and Waters of the United States

Any permanent or temporary impacts to regulated Waters of the U.S., including wetlands, would require permits be obtained through a Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Non-tidal Wetland in Maryland from the MDE and the USACE. Prior to disturbance of the identified areas, a jurisdictional determination would be requested from the USACE to determine the regulatory status of the ephemeral drainages and a permit application would be submitted if required. Typical mitigation ratios include a 1:1 replacement ratio for impacts to emergent wetlands, a 1.5:1 replacement ratio for scrub-shrub wetlands, and a 2:1 replacement ratio for forested wetland systems. Mitigation options may include restoring, enhancing, or creating and preserving wetlands, surface waters, or uplands. An approved erosion/sediment control plan is required before construction to prevent soil erosion from active construction zones. A stormwater management plan approval is also required in order to control the rate of stormwater runoff from newly disturbed areas during construction.

4.1.2.1 No-Action Alternative

This alternative would have no impacts to Waters of the U.S., including wetlands. Implementation of the No Action Alternative, in addition to past, present and reasonably foreseeable projects would have no cumulative impacts to wetlands.

4.1.2.2 Site 132-Johnnycake Road

Permanent and temporary impacts to streams and wetlands would occur as implementation of this site requires excavation and grading associated with construction activities. At this time, it is anticipated that wetland impacts, as well as impacts to Waters of the U.S. would occur. However, a site layout has not been determined at this time so exact impacts are not known, and a jurisdictional determination has not been conducted. If this site is selected as the preferred alternative, a jurisdictional determination would need to be conducted and required permits would need to be obtained prior to construction. Required avoidance, minimization, and mitigation efforts would be fulfilled in accordance with permit conditions. Permanent and temporary impacts include construction, excavation, fill material, and channel relocation. In-stream work is restricted during the period of March 1st through June 15th for Use I waters and October 1st through April 30th for Use III waters, during any year. Typical wetland mitigation ratios include a 1:1 replacement ratio for impacts to emergent wetlands, a 1.5:1 replacement ratio for scrub-

1 shrub wetlands, and a 2:1 replacement ratio for forested wetland systems. Mitigation options may include
2 restoring, enhancing, or creating and preserving wetlands, surface waters, or uplands. If the Proposed
3 Action is implemented at this location, required permits would be obtained and permit conditions would
4 be fulfilled.

5 Implementation of the Proposed Action at this location, in addition to past, present and reasonably
6 foreseeable projects is not anticipated to have significant cumulative impacts to wetlands and Water of
7 U.S.

4.1.2.3 Site 135B-Urbana

8 Several surface tributaries and wetlands occur along the outer edge of the proposed site development
9 layout. The previous development of the business park included a wetland jurisdictional determination for
10 all wetlands, wetland buffers, 100- year floodplain and surface waters within the areas permitted. A
11 MDSPGP-3, Category 1 Permit was issued (#200460750/03-NT-3277) for impacts associated with the
12 construction activities associated with the business park and is valid until March 10, 2013. Any impacts
13 outside of the original permit to Waters of the U.S., wetlands and wetland buffers would require
14 additional permitting. Development at this site would require avoidance, minimization, and mitigation
15 efforts as outlined in the permit. According to the proposed project site layout, a facility consisting of
16 multiple buildings totaling 400,000 square feet and parking would be constructed up gradient of the
17 wetlands; therefore, impacts are not anticipated. Best Management Practices (BMPs) would be
18 implemented to minimize indirect impacts to wetlands.

19 No in-stream work is anticipated, however if site development plans changed and in-stream work was
20 required, the restriction time frame will abide with the Use 1 in-stream restrictions time period
21 accordingly. These impacts would be regulated by federal and state review agencies, and mitigation
22 would be fulfilled as required by these permitting agencies.

23 Implementation of the Proposed Action at this location, in conjunction with past, present, and reasonably
24 foreseeable projects is not anticipated to have cumulative impacts to wetlands or Waters of the U.S.

4.1.3 Floodplains

4.1.3.1 No Action Alternative

25 Under the No Action Alternative, the SSA NSC would not be constructed; therefore, no impacts to
26 floodplains would occur. Implementation of the No Action Alternative, in addition to past, present and
27 reasonably foreseeable projects would have no cumulative impacts to floodplains.

4.1.3.2 Site 132- Johnnycake Road

28 The project site (Map Panel 2400100359F) has been determined to be outside the 100- and 500- year
29 floodplains. These areas are of minimal flood risk and outside the 0.2-percent-annual-chance floodplain;
30 therefore implementation of the proposed Action at this site would not impact floodplains according to
31 FEMA. Implementation of the Proposed Action at this location, in conjunction with past, present, and
32 reasonably foreseeable projects, would not have adverse cumulative impacts to floodplains.

4.1.3.3 Site 135B-Urbana

The unnamed tributary to Bennett Creek was shown to have a mapped floodplain designated as Zone A. It should not be necessary to develop detailed base flow elevations data in that the actual building site is clearly outside of the Zone A area. It is evident from the topographic features of the plan that the building site would be clearly out of the floodplain. The proposed site indicates a steep grade between the approximate Zone A and the building site which is located on high ground. If part of the building site would extend into the Zone A, an analysis should be conducted to determine the location of the 100 year floodplain and the base flood elevation. Construction is not planned to be located within the mapped Zone A. The 500- year floodplain is not located on the property being acquired by GSA. Therefore no impacts would occur and no adverse cumulative impacts to the floodplain. Implementation of the Proposed Action at this location, in conjunction with past, present, and reasonably foreseeable projects, would not have adverse cumulative impacts to floodplains.

4.1.4 Coastal Zone Management

4.1.4.1 No Action Alternative

Under the No Action Alternative, the SSA NSC would not be constructed; therefore no impacts to coastal zones would occur. The No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to coastal zones.

4.1.4.2 Site 132-Johnnycake Road

Due to an update of Maryland's Coastal Zone Management Program, current policies were not available for evaluation and a Coastal Zone Consistency Determination was not prepared at this time. Implementation of the Proposed Action at this site would require further coordination with MDNR and a Coastal Zone Consistency Determination would be required. It is anticipated that the implementation of the Proposed Action at this location will be consistent to the maximum extent practicable with the enforceable policies of the updated Maryland Coastal Zone Management Program; therefore it is not anticipated that the Proposed Action would have a foreseeable effect on Maryland's Coastal zone. Site 132, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to coastal zones.

4.1.4.3 Site 135B-Urbana

No impacts are proposed to Coastal Zone area for this location as the site is located within Frederick County and is not subject to Coastal Zone Management activities. Implementation of the Proposed Action at this location, in conjunction with past, present, and reasonably foreseeable projects, would not have adverse cumulative impacts to the coastal zone.

4.1.5 Vegetation and Wildlife

4.1.5.1 No Action Alternative

Under the No Action Alternative, the SSA NSC would not be constructed; therefore there would be no impacts to vegetation and wildlife. Implementation of the No Action Alternative, in addition to past, present and reasonably foreseeable projects would have no cumulative impacts to vegetation and wildlife.

4.1.5.2 Site 132-Johnnycake Road

1 A majority of the vegetation on site has been disturbed either through agricultural farming practices, or
2 from the abandoned golf driving range. These areas only provide limited wildlife foraging or breeding
3 habitat. Construction of the SSA NSC facility would mainly occur in these agricultural fields with little to
4 no natural vegetation. The forest land is associated with steep slopes and drainage ways or stream
5 channels that are not anticipated to be impacted. There are no virgin stands of forest identified on site.
6 The mature stands of woods are located off site adjacent to Dogwood Run. The Maryland Forest
7 Conservation Act requires the minimizing of forest clearing, replacement of removed wooded areas, or
8 contributions to a reforestation fund if forested areas are taken. Loss of wetland habitat could have
9 impacts to vegetation and wildlife individually but would not have an overall effect on populations.
10 Through avoidance of forested areas, minimization, and mitigation efforts, impacts to wildlife are
11 anticipated to be minimal and not expected to affect the stability of wildlife populations on site.
12 Implementation of the Proposed Action at this location, in conjunction with past, present, and reasonably
13 foreseeable projects, would have minor cumulative impacts to wildlife.

4.1.5.3 Site 135B-Urbana

14 A majority of the parcel is open agriculture land, which offers little plant diversity or valuable wildlife
15 foraging or breeding habitat. Construction of the SSA NSC facility at Site 135B would occur in these
16 agricultural fields where impacts to natural vegetation would be minor. There would be no impacts to
17 forests. Implementation of the Proposed Action at this location, in conjunction with past, present, and
18 reasonably foreseeable projects, would have minor cumulative impacts to wildlife.

4.1.6 Farmland

4.1.6.1 No Action Alternative

19 Under the No Action Alternative, the new SSA NSC would not be constructed; therefore, no impacts to
20 farmlands would occur. Implementation of the No Action Alternative, in addition to past, present and
21 reasonably foreseeable projects would have no cumulative impacts to farmland.

4.1.6.2 Site 132-Johnnycake Road

22 The current site is undeveloped and has been used for agricultural purposes in the past. However, it is not
23 currently in agricultural use; therefore, implementation of the Proposed Action at this site would not
24 displace a farm operation nor would it require the relocation of the farming operation. No impacts to
25 farmlands would occur. Implementation of the Proposed Action at this site, in addition to past, present
26 and reasonably foreseeable projects would have no cumulative impacts to farmland.

27 Prime farmland soils are associated with Site 132. The FPPA only addresses impacts to soils. The land
28 does not have to be in productive agricultural use; therefore impacts to FPPA soils are addressed in
29 Section 4.1.1.

4.1.6.3 Site 135B-Urbana

30 The current site is undeveloped and has been used for agricultural purposes in the past. The site is
31 presently leased by the owner to a farmer for hayfields; however, this is not a farm operation. The
32 proposed project would not displace a farm operation nor would it require the relocation of a farming
33 operation. Implementation of the Proposed Action at this location would not impact farmlands.

Implementation of the Proposed Action at this site, in addition to past, present and reasonably foreseeable projects would have no cumulative impacts to farmland.

Prime and statewide important farmland soils are associated with Site 135B. The FPPA only addresses impacts to soils. The land does not have to be in productive agricultural use; therefore impacts to FPPA soils are addressed in Section 4.1.1.

4.2 Man Made Environment

4.2.1 Air Quality

Pollutant emissions resulting from proposed construction and operation activities have been evaluated for the Proposed Action. Air quality impacts would be significant if emissions associated with the Proposed Action would: 1) increase ambient air pollution concentrations above the NAAQS, 2) contribute to an existing violation of the NAAQS, 3) interfere with, or delay timely attainment of the NAAQS, or 4) for mobile source emissions, result in an increase in emissions to exceed 250 tons per year for any pollutant. Pollutants considered in this air quality analysis include the criteria pollutants and HAPs measured by federal standards.

4.2.1.1 No Action Alternative

Under the No Action Alternative the SSA NSC would not be built. There would be no changes to the air emissions that occur at present. In addition, the No Action Alternative in conjunction with past, present, or reasonably foreseeable future actions, would not cause cumulative air quality impacts.

4.2.1.2 Site 132-Johnnycake Road

Construction

The Proposed Action involves the construction and subsequent operation of a computing facility. In order to assess the air quality impacts of the Proposed Action, emissions for the construction and operation segments of the action were compared to the General Conformity Rule *de Minimis* Thresholds for the ozone precursors VOC and NO₂, as well as PM_{2.5} and its precursor SO₂. For the criteria pollutants that the Metropolitan Baltimore Intrastate AQCR is designated as unclassifiable/better than national standards, the calculated emissions are compared to the 250-ton threshold. **Appendix D** contains the detailed emission calculations prepared to assess the air quality impacts of the Proposed Action.

Air quality impacts from construction for Site 132 would occur from (1) combustion emissions due to the use of fossil fuel-powered equipment and (2) fugitive dust emissions (PM₁₀ and PM_{2.5}) earth-moving activities, and the operation of equipment on bare soil. Fugitive dust emissions were calculated based on the total site disturbance projected for each construction project for all construction years. Equipment usage was based on similar construction projects to estimate project combustion and fugitive dust emissions.

The emissions associated with the proposed construction of the NSC at Site 132 in Baltimore County, MD are summarized in **Table 12**. Variations in the proposed layouts result in small variations in emissions associated with the two sites. The calculations for both locations indicate that annual emissions for proposed construction activities would not exceed the *de Minimis* thresholds or the 250 tons per year

1 for any criteria pollutant. Air quality impacts associated with the construction activities at either location
2 would not be significant. Detailed calculations can be found in **Appendix D**.

3

Table 12: Estimated Emissions for Construction of the Proposed NSC at Site 132

Emissions Due to Construction at Site 132, Baltimore County, MD Location						
Construction Activity	Air Pollutant Emissions (tons)					
	CO	NO _x	VOCs	SO _x	PM ₁₀	PM _{2.5}
Construction	1.26	3.54	0.58	0.45	12.64	1.46
Major Source Threshold	250	-	-	-	250	-
de Minimis Thresholds	-	100	¹ 50	100	-	100

¹VOC *de Minimis* established for nonattainment areas located in ozone transport region.

Project construction equipment would emit minor amounts of hazardous air pollutants (HAPs) that could potentially impact public health. The main source of HAPs would occur in the form of diesel exhaust organic gases and particulates from the combustion of diesel fuel. The operation of proposed diesel-powered construction equipment would be mobile and intermittent over the course of the construction period, and would produce minimal ambient impacts of HAPs in a localized area. However, due to the suburban locations of the site, the possible location of sensitive populations (children, the elderly and the chronically ill) cannot be discounted, and therefore the operation of the diesel-powered equipment should include some BMPs, to include a restriction on excessive idling, adherence to equipment maintenance programs to ensure excessive emissions are not generated as a result of poor maintenance, and the use of particulate filters and ultra low sulfur diesel fuel for applicable equipment. As a result, HAP emissions from construction equipment would produce less than significant impacts to public health.

Operations

Operations would include three boilers, each rated at 3325 MBH that would provide both heat and hot water for the facility, fourteen 2400 KW diesel emergency generators, and fuel storage for the emergency generators. The boiler systems would be dual fuel with Natural gas and Fuel Oil with Natural Gas as primary source. Because of the size of the boilers, they are categorized as “small boilers” by MDE, and therefore qualify for a General Permit to Construct. An application, MDE Form MDE/ARMA/PER.004, would be required to obtain this permit.

The exact configuration of the diesel fuel storage at the facility is unknown at this time. They may be segregated into individual tanks located along with each generator or there may be a centralized storage tank. It is not known at this time if the tank(s) would be above ground or underground storage tanks.

In order to install and operate the emergency generators, MDE Form MDE/ARMA/PER.042 would have to be completed and submitted in order register the generators with the state and receive air quality permits to construct, as required by COMAR Title 26, Subtitle 11, Chapter 2, Section 2, Subsection 2.

A similar form (MDE Form MDE/ARMA/PER.044) would also be needed if the fire protection system uses a diesel fire protection pump, or there is any other power equipment using internal combustion engines planned for use. However, at this time it is expected that an electric fire pump will be utilized.

The estimated emissions associated with the proposed NSC are summarized in **Table 13**. The operational emissions for both locations are identical, and the calculations indicate that annual emissions for proposed construction activities would not exceed the *de Minimis* thresholds or the 250 tons per year for any

criteria pollutant. The carbon dioxide equivalent Greenhouse Gas emissions are well below the 25,000 metric tons per year threshold established by the Mandatory Greenhouse Gas Reporting Rule. Air quality impacts associated with the construction activities at either location would not be significant. Detailed calculations can be found in **Appendix D**.

Table 13: Estimated Annual Operational Emissions

Operational Emissions Source	CO	NO _x	VOCs	SO _x	PM ₁₀	PM _{2.5}	CO ₂
Emergency Generators	3.66	8.66	0.43	0.27	0.47	≤ 0.47	8.53
Boilers	1.07	1.27	0.07	0.01	0.10	≤ 0.10	1388.97
Total in Tons per Year	4.73	9.93	0.50	0.28	0.56	≤ 0.56	-
Total in Metric Tons per Year	-	-	-	-	-	-	1397.50
Major Source Threshold	250	-	-	-	250	-	25,000
de Minimis Thresholds	-	100	¹ 50	100	-	100	NA

¹VOC *de Minimis* established for nonattainment areas located in ozone transport region.

Other operational issues include indoor air quality. A reduction in HAPs and TAPs commonly associated with indoor environments is expected as new vertical construction is required to meet LEED guidelines. LEED certified projects provide specific air quality benefits through the use of optimized energy performance and conservation features, increased ventilation, low pollutant emitting materials in construction (such as adhesives and sealants, carpeting, etc.), and indoor chemical and pollutant source controls.

The Proposed Action at site 132, in conjunction with past, present, or reasonably foreseeable future actions, would not cause cumulative air quality impacts.

4.2.1.3 Site 135B- Urbana

Construction

The Proposed Action involves the construction and subsequent operation of a computing facility . In order to assess the air quality impacts of the Proposed Action, emissions for the construction and operation segments of the action were compared to the General Conformity Rule *de Minimis* Thresholds for the ozone precursors VOC and NO₂, as well as PM_{2.5} and its precursor SO₂. For the criteria pollutants that the Metropolitan Baltimore Intrastate AQCR is designated as unclassifiable/better than national standards, the calculated emissions are compared to the 250-ton threshold. **Appendix D** contains the detailed emission calculations prepared to assess the air quality impacts of the Proposed Action.

Air quality impacts from construction for Site 135B would occur from (1) combustion emissions due to the use of fossil fuel-powered equipment and (2) fugitive dust emissions (PM₁₀ and PM_{2.5}) earth-moving activities, and the operation of equipment on bare soil. Fugitive dust emissions were calculated based on the total site disturbance projected for each construction project for all construction years. Equipment usage was based on similar construction projects to estimate project combustion and fugitive dust emissions.

The emissions associated with the proposed construction of the NSC at Site 135B in Frederick County, MD are summarized in **Table 14**. Variations in the proposed layouts result in small variations in emissions associated with the two sites. The calculations for both locations indicate that annual emissions for proposed construction activities would not exceed the *de Minimis* thresholds or the 250 tons per year for any criteria pollutant. Air quality impacts associated with the construction activities at either location would not be significant. Detailed calculations can be found in **Appendix D**.

Table 14: Estimated Emissions for Construction of the Proposed NSC at Site 135B

Emissions Due to Construction at site 135B, Frederick County, MD Location						
Construction Activity	Air Pollutant Emissions (tons)					
	CO	NO _x	VOCs	SO _x	PM ₁₀	PM _{2.5}
Construction	3.07	9.17	1.03	1.02	18.52	2.29
Major Source Threshold	250	-	-	-	250	-
de Minimis Thresholds	-	100	¹ 50	100	-	100

¹VOC *de Minimis* established for nonattainment areas located in ozone transport region.

Project construction equipment would emit minor amounts of hazardous air pollutants (HAPs) that could potentially impact public health. The main source of HAPs would occur in the form of diesel exhaust organic gases and particulates from the combustion of diesel fuel. The operation of proposed diesel-powered construction equipment would be mobile and intermittent over the course of the construction period, and would produce minimal ambient impacts of HAPs in a localized area. However, due to the suburban locations of the site, the possible location of sensitive populations (children, the elderly and the chronically ill) cannot be discounted, and therefore the operation of the diesel-powered equipment should include some BMPs, to include a restriction on excessive idling, adherence to equipment maintenance programs to ensure excessive emissions are not generated as a result of poor maintenance, and the use of particulate filters and ultra low sulfur diesel fuel for applicable equipment. As a result, HAP emissions from construction equipment would produce less than significant impacts to public health.

Operations

Operations would include three boilers, each rated at 3325 MBH that would provide both heat and hot water for the facility, fourteen 2400 KW diesel emergency generators, and fuel storage for the emergency generators. The boiler systems would be dual fuel with Natural gas and Fuel Oil with Natural Gas as primary source. Because of the size of the boilers, they are categorized as “small boilers” by MDE, and therefore qualify for a General Permit to Construct. An application, MDE Form MDE/ARMA/PER.004, would be required to obtain this permit.

The exact configuration of the diesel fuel storage at the facility is unknown at this time. They may be segregated into individual tanks located along with each generator or there may be a centralized storage tank. It is not known at this time if the tank(s) would be above ground or underground storage tanks.

In order to install and operate the emergency generators, MDE Form MDE/ARMA/PER.042 would have to be completed and submitted in order register the generators with the state and receive air quality permits to construct, as required by COMAR Title 26, Subtitle 11, Chapter 2, Section 2, Subsection 2.

A similar form (MDE Form MDE/ARMA/PER.044) would also be needed if the fire protection system uses a diesel fire protection pump, or there is any other power equipment using internal combustion engines planned for use. However, at this time it is expected that an electric fire pump will be utilized.

The estimated emissions associated with the proposed NSC are summarized in **Table 10**. The operational emissions for both locations are identical, and the calculations indicate that annual emissions for proposed construction activities would not exceed the *de Minimis* thresholds or the 250 tons per year for any criteria pollutant. The carbon dioxide equivalent Greenhouse Gas emissions are well below the 25,000 metric tons per year threshold established by the Mandatory Greenhouse Gas Reporting Rule. Air quality impacts associated with the construction activities at either location would not be significant. Detailed calculations can be found in **Appendix D**.

The Proposed Action at this site, in conjunction with past, present, or reasonably foreseeable future actions, would not cause cumulative air quality impacts.

4.2.2 Noise

4.2.2.1 No Action Alternative:

Under the No Action Alternative, the proposed construction of a new NSC would not occur and there would be no changes to current noise levels. The No Action Alternative would not increase noise levels; therefore, in conjunction with past, present, or reasonably foreseeable future Actions, there would be no cumulative noise impacts.

4.2.2.2 Site 132-Johnnycake Road

If the Proposed Action were implemented, minor, temporary impacts to the noise environment in the vicinity of the site would occur. The noise generated by the Proposed Action would be associated with construction activities. The use of heavy equipment for site preparation and development (e.g., grading, and back fill) would generate noise levels above average ambient noise levels. However, noise levels would be typical of standard construction activities, and are expected to occur during normal working hours (i.e., between 7:00 A.M. and 5:00 P.M., Monday through Friday). Temporary noise impacts would cease with the completion of proposed construction activities. Within the study area there are noise receptors that could be affected by the temporary noise, and primarily include surrounding residences. Therefore, this noise analysis focuses on the potential impact to noise sensitive receptors (i.e., family residences) located adjacent to the site proposed for construction of the NSC.

Maryland state law prohibits noises in excess of 90 dBA from general daytime construction activities (26 COMAR 02.03.03(A)). However, the Baltimore County site might additionally require blasting at certain locations of bedrock material. This is a specific type of construction activity that is exempt from the 90 dBA limit as long as it occurs during daytime hours (26 COMAR 02.03.03(B)).

Implementation of the Proposed Action would be expected to create temporary and intermittent short-term annoyance for the local receptors, especially site preparation (grading) and trenching, which would cease after the construction is completed. Overall, no long-term impacts to noise would be anticipated with implementation of the Proposed Action for both construction and operation activities.

1 Construction Related Activities

2 Although temporary noise impacts related to construction activities would occur, Site 132 in conjunction
3 with past, present, or reasonably foreseeable future actions, is not anticipated to result in major adverse
4 cumulative noise impacts.

4.2.2.3 Site 135B-Urbana

5 Site 132 and 135B would have similar impacts associated with Noise; therefore impact analysis is
6 applicable to both sites.

7 Although temporary noise impacts related to construction activities would occur, Site 135B in
8 conjunction with past, present, or reasonably foreseeable future actions, is not anticipated to result in
9 major adverse cumulative noise impacts.

4.2.3 Land Use

4.2.3.1 No Action Alternative

10 Under the No Action Alternative, the NSC would not be constructed. Therefore, there would be no
11 change in land use. Additionally, the No Action Alternative, in conjunction with past, present, or
12 reasonably foreseeable future actions would not result in cumulative impacts to land use.

4.2.3.2 Site 132-Johnnycake Road

13 If the Proposed Action would occur at Johnnycake Road, land use associated with the proposed project
14 site would change from a mixed use of agriculture, residential, and commercial to commercial. Proposed
15 development of the location would be consistent with surrounding land use. Although federal agencies are
16 not required to comply with local zoning, the implementation of the Proposed Action at this location
17 would be consistent with surrounding land use. Site 132 is located within the Baltimore County's URDL
18 area which identifies 132 as an area planned for employment, retail and residential development. It
19 encourages the location of necessary utilities and infrastructure in this area to support such development.
20 Additionally, the county planning board has voted to reclassify the entire site as an Employment Center.
21 The surrounding land use is a mixed use of residential and commercial; therefore no significant impacts to
22 land use are anticipated under this alternative. Site 132, in conjunction with past, present, or reasonably
23 foreseeable future actions, would have no cumulative impacts to land use.

4.2.3.3 Site 135B-Urbana

24 If the Proposed Action would occur at Urbana, land use associated with the proposed project site would
25 change from agriculture to commercial. Proposed development of the location would be consistent with
26 surrounding land use. Although federal agencies are not required to comply with local zoning, the
27 implementation of the Proposed Action at this location would be consistent with surrounding land use.
28 The Proposed Action site is designated one of Frederick's Unincorporated Growth Areas and zoned
29 Mixed Use development (MxD). It is also along the I-270 Growth Employment Corridor. The site
30 formerly was a farmstead but is now within a 200 acre commercial businesses park currently undergoing
31 development. The community consists of primarily typical businesses like the new Fannie Mae
32 Technology Center building which employs about 250 people and Banner Life Insurance also near the
33 proposed site north of the Fannie Mae Center. Since the surrounding land use is commercial, no

significant impacts to land use are anticipated. Site 135B, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to land use.

4.2.4 Transportation and Traffic

4.2.4.1 No Action Alternative

Under the No Action Alternative, the NSC would not be constructed and no changes in traffic patterns would occur, therefore there would be no impacts to traffic. Additionally, the No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would not result in cumulative impacts to traffic.

4.2.4.2 Site 132-Johnnycake Road

Based on traffic surveys conducted for this site during August 2010, increases in traffic would result with the implementation of the Proposed Action at Site 132. Traffic surveys focused on four intersections: Johnnycake Road and Hollofield Road, Johnnycake Road and proposed site access, Johnnycake Road and Fairbrook Road, and Greengage Road and Fairbrook Road.

The existing traffic counts taken during the traffic analysis were then projected to year 2011 (build year) and 2021 (a ten-year horizon) using a growth rate of 2.0 percent per year.

The traffic analysis identified the following conditions:

- The un-signalized T-intersection at Johnnycake and Hollofield Roads would operate at a deficient LOS for all conditions analyzed and the implementation of the Proposed Action would add to delays on the already over-capacity intersection.
- The un-signalized T-intersection of Johnnycake and Fairbrook Roads is expected to operate at a LOS C for all conditions analyzed.
- The un-signalized T-intersection of Fairbrook and Greengage Roads is expected to operate in acceptable LOS for the year 2011 conditions; however, for the year 2021 conditions, traffic traveling westbound would operate at LOS F only during peak pm hours.

In addition to evaluating intersections, an intersection of Johnnycake Road and the proposed site access was also evaluated. It was determined that a T-intersection between Johnnycake Road and the site driveway would operate at an average LOS C for all conditions analyzed.

According to the traffic study prepared for this site, increases in traffic as a result of the implementation of the Proposed Action at this location would result in minor impacts to traffic. Improvements would be required to address this impact and accommodate the anticipated increase in traffic associated with Site 132. The improvements suggested in the traffic study include a roundabout at the Johnnycake Road and Hollofield Road intersection; a left-turn lane for eastbound traffic on Johnnycake Road at the Johnnycake Road and site access location; and an all-way stop at the intersection of Fairbrook Road and Greengage Road. The traffic study also identified signalization at the Johnnycake Road and Hollowfield Road intersection as a second option for addressing improvements to accommodate additional traffic. An extension of Security Boulevard was not warranted based on the traffic analysis; therefore, the proposed extension of Security Boulevard was not evaluated as part of the project.

1 Site 132, in conjunction with past, present, or reasonably foreseeable future actions, would have no
2 significant cumulative impacts to traffic. The impacts that could occur due to roadway improvements to
3 mitigate for additional traffic may include minor impacts to vegetation and possibly wetlands. The
4 improvements would be conducted by Baltimore County and impacts to resources would be evaluated
5 based on the design. The proposed roadway improvements are minor and the impacts associated with
6 these improvements would be minor.

4.2.4.3 Site 135B-Urbana

7 An extensive traffic study was completed for the ORC in November 1999. Traffic volumes associated
8 with Site 135B are covered by the study and no further traffic analysis was required. Based on this study
9 it is anticipated that implementation of the Proposed Action at this site would not impact traffic. Site
10 135B, in conjunction with past, present, or reasonably foreseeable future actions, would have no
11 cumulative impacts to traffic.

4.2.5 Cultural Resources

4.2.5.1 No Action Alternative

12 Under the No Action Alternative implementation of the Proposed Action would not occur; therefore, no
13 impacts to cultural resources would occur. The No Action Alternative, in conjunction with past, present,
14 or reasonably foreseeable future actions, would have no cumulative impacts to cultural resources.

4.2.5.2 Site 132-Johnnycake Road

15 Due to substantial documentation of the three sites identified at this location on historical maps and aerial
16 photographs, as well as knowledge of its owners through deed research, it is not anticipated that
17 additional artifact recovery or information pertaining to the construction of these houses would provide
18 new information pertinent to the history of nineteenth or twentieth century Maryland. A Phase I
19 Archaeology survey report was prepared for Site 132 that recommended the sites as not eligible for the
20 NRHP (TEC 2010). A letter, dated December 14, 2010, was received from the MHT concurring that no
21 properties eligible for listing in the NRHP will be affected by the proposed project.

22 Site 132, in conjunction with past, present, or reasonably foreseeable future actions would not result in
23 adverse cumulative impacts to cultural resources.

4.2.5.3 Site 135B-Urbana

24 One historic site, the Strube Farm Site, was identified on Site 135B. This site consists of the disturbed
25 remains of a late nineteenth through twentieth century farm (Locus 1) and the possible structural remains
26 of a mid-nineteenth century farmstead (Locus 2). The farm at Locus 1 was demolished sometime between
27 1994 and 2005. There is fairly substantial documentation of the Locus 1 farm on historic maps and aerial
28 photographs, as well as the knowledge of its owners through deed research. In addition, the large amount
29 of disturbance created during demolition of Locus 1 leaves no intact remains of the house and the
30 majority of the outbuildings.

31 Limited structural remains are associated with the Locus 2 farm portion of the Strube Farm Site, including
32 possible foundations of a large barn and a second barn or outbuilding. Testing in and around these
33 remains failed to produce artifacts in large quantities or domestic artifacts related to the presence of a
34 house. Comparison of historic and modern maps indicates that the original farmhouse for Locus 2 was

1 located under what is now I-270 and if any remains of the house were standing at that time, they were
2 likely demolished during the construction of the highway in the 1950s. It is not anticipated that additional
3 artifact recovery or information pertaining to the construction of the farm's outbuildings would provide
4 new information pertinent to the history of nineteenth or twentieth century Frederick County.

5 A Phase I Archaeology survey report was prepared for Site 135B that recommended the site as not
6 eligible for the NRHP (TEC 2010). A letter, dated December 14, 2010, was received from the MHT
7 concurring that no properties eligible for listing in the NRHP will be affected by the proposed project.

8 Site 135B, in conjunction with past, present, or reasonably foreseeable future actions would not result in
9 adverse cumulative impacts to cultural resources.

4.2.6 Aesthetic and Visual Resources

4.2.6.1 No Action Alternative

10 There would be no aesthetic or visual impact as a result of the No Action Alternative. Additionally, the
11 No Action Alternative, in conjunction with past, present, or reasonably foreseeable future actions would
12 not result in cumulative impacts to aesthetic and visual resources.

4.2.6.2 Site 132-Johnnycake Road

13 Construction of the SSA NSC would change the view of the current site. However, this is not anticipated
14 to have significant negative visual impacts. The conversion of this site would require the minor clearing
15 of vegetation, as well as grading and blasting activities. The presence of the new SSA NSC would not
16 significantly change the physical features within the setting, as the immediate area surrounding the
17 proposed site does contain residential and commercial development, as well as undeveloped areas.
18 Landscaping of the area outside the NSC would occur upon completion of construction.

19 Site 132, in conjunction with past, present, or reasonably foreseeable future actions would not result in
20 adverse cumulative impacts to aesthetic and visual resources.

4.2.6.3 Site 135B-Urbana

21 Construction of the SSA NSC would change the view of the current site. However, this is not anticipated
22 to have significant negative visual impacts. The conversion of this site would require the minor clearing
23 of vegetation, as well as excavation and grading activities. The presence of the new SSA NSC would not
24 significantly change the physical features within the setting, as the immediate area surrounding the
25 proposed site does contain residential and commercial development, as well as undeveloped areas.
26 Landscaping of the area outside the NSC would occur upon completion of construction.

27 Site 135B, in conjunction with past, present, or reasonably foreseeable future actions would not result in
28 adverse cumulative impacts to aesthetic and visual resources.

4.2.7 Socioeconomics

4.2.7.1 No Action Alternative

29 The No Action Alternative would not require the construction of a new NSC. No changes would occur
30 that would affect socioeconomic resources or minority populations, low-income populations, or children.
31 Thus, no impacts to socioeconomics or low-income and minority populations would occur under the No

1 Action Alternative. Additionally, the No Action Alternative, in conjunction with past, present, or
2 reasonably foreseeable future actions would not result in cumulative impacts to socioeconomic resources.

4.2.7.2 Site 132 Johnnycake Road

3 Implementation of the Proposed Action at Site 132 would not result in significant impacts that would
4 affect off-site populations. While individuals with low incomes may reside in the vicinity of this site and
5 minority populations are present, the Proposed Action would not have a disproportionately high or
6 adverse affect on low-income or minority groups. Demolition and construction activities would be
7 conducted in accordance with local, state, and federal regulations. There would be no environmental
8 health or safety impacts to children. Site 132, in conjunction with past, present, or reasonably foreseeable
9 future actions, would have no cumulative impacts to socioeconomics.

4.2.7.3 Site 135B, Urbana

10 Implementation of the Proposed Action at Site 135B would not result in significant impacts that would
11 affect off-site populations. While individuals with low incomes and/or minorities may reside in the
12 vicinity of the Site 135B, the Proposed Action would not have a disproportionately high or adverse affect
13 on low income or minority groups. Demolition and construction activities would be conducted in
14 accordance with local, state, and federal regulations. There would be no environmental health or safety
15 impacts to children. Site 135B, in conjunction with past, present, or reasonably foreseeable future actions,
16 would have no cumulative impacts to socioeconomics.

4.2.8 Utilities

4.2.8.1 No Action Alternative

17 The No Action Alternative would not require the construction of a new NSC; therefore, there would be no
18 impact to energy demands, water demands and supplies, infrastructure demands or waste water demands
19 in the Woodlawn area. Additionally, the No Action Alternative, in conjunction with past, present or
20 reasonably foreseeable future actions would not result in adverse cumulative impacts to utilities.

4.2.8.2 Site 132-Johnnycake Road

21 Electrical Power

22 BGE has indicated it has the supply and capacity for the construction of a new NSC but distribution
23 would need to be upgraded. The existing supply and capacity of electric power along Johnnycake Road is
24 not sufficient to provide the required loads in the startup year of 2014 and the ultimate load in Year 2033.
25 Feeders from Harrisionville and Sudbrook electric substations and the use of transformers (a small
26 substation) for installing upgraded power to the site could be required. Ongoing coordination and
27 planning is required for the best method to accomplish distribution. Therefore, implementation of the
28 Proposed Action at Site 132 would have minor impacts to electrical power. Site 132, in conjunction with
29 past, present, or reasonably foreseeable future actions, would have no significant cumulative impacts to
30 electrical power.

31 Natural Gas

32 BGE has sufficient natural gas to provide service to Site 132. A study was conducted to evaluate the
33 potential risks and impacts that may be associated with the 26-inch gas main on the property. The study

determined that with appropriate buffers, construction and operation of the NSC would not impact the gas main (Jacobs, 2010b). Therefore, implementation of the Proposed Action at Site 132 would have no impact to natural gas. Site 132, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to natural gas.

Potable Water

Baltimore City Department of Public Works has the supply and capacity to meet the water needs of a new NSC. A 12-inch water line is located along Johnnycake Road. A 12-inch line with 80-psi operating pressure would be adequate to serve the proposed use. A fire flow test would need to be conducted to make sure the operating pressure is sufficient. Therefore, implementation of the Proposed Action at Site 132 would have no impact to potable water. Site 132, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to potable water.

Sewer

Baltimore County Department of Public Works maintains the existing sewer system. The existing system is an eight-inch gravity system serving a residential area and has sufficient capacity down to I-70. At the point where the system crosses under I-70 the piping system needs to be replaced and upgraded. This will include approximately 2,700 feet of new piping in order to serve the new site. Part of the system being replaced would run in the Patapsco Valley State Park which would require the permission from the governor and the Maryland Board of Estimates to complete the work. Since the site runs along a ridge line some of the site would be served by gravity sewers and some of the property would require a pressure system with a pumping station and force main. Parallel lines would require coordination with Baltimore County to further evaluated flows and connection points. Therefore, implementation of the Proposed Action at Site 132 would have minors impact to the sewer system. Site 132, in conjunction with past, present, or reasonably foreseeable future actions, would have no significant cumulative impacts to the sewer system.

Site 132, in conjunction with past, present, or reasonably foreseeable future actions, would not have significant cumulative impacts to utilities. The need for improvements or upgrades to the utilities would be the responsibility of the individual utility. Impacts to resources as a result of improvements or upgrades to utilities will need to be evaluated by the individual utility. Impacts could include wetlands, farmlands, streams, vegetation and infrastructure. Improvements and upgrades would likely be done within the existing right-of-way for the utility and impacts are anticipated to be minor and not contribute to significant cumulative impacts to other resources.

4.2.8.3 Site 135B-Urbana

Electrical Power

Allegheny Power has supply and initial capacity for the construction and operation of the new NSC. Its current power is 34.5 kV sub transmission service to the area is planned to be upgraded. Feasibility of serving loads in the startup year of 2014 and the ultimate load in Year 2033, it was determined the interim facilities would not meet site requirements and would need to be upgraded. Allegheny Power completed an alternatives study (*Project Service Scarlet Study, 2010*) to better understand and meet the demands of

the proposed facility. Therefore, implementation of the Proposed Action at Site 135B would have minor impact to electrical power. Site 135B, in conjunction with past, present, or reasonably foreseeable future actions, would have no significant cumulative impacts to electrical power.

Natural Gas

BGE has sufficient natural gas to provide service to Site 135B. A study was conducted to evaluate the potential risks and impacts that may be associated with the 20-inch and 8-inch gas lines on the property. The study determined that with appropriate buffers, construction and operation of the NSC would not impact the gas lines (Jacobs, 2010b). Therefore, implementation of the Proposed Action at Site 135B would have no impact to natural gas. Site 135B, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to natural gas.

Potable Water

The County of Frederick has sufficient water supply for the new NSC center. An available 20-inch main line is within 1,000 feet of the property site, and there are approved plans in place to expand it throughout the Urbana Corporate Center. No impacts would result from the activities associated with the Proposed Action at Site 135B to potable water. A water capacity request form should be submitted to the public works department as part of the permitting process. Therefore, implementation of the Proposed Action at Site 135B would have no impacts to potable water. Site 135B, in conjunction with past, present, or reasonably foreseeable future actions, would have no cumulative impacts to potable water.

Sewer

No impacts would be expected to the sewer capacity with the implementation of the Proposed Action at Site 135B. Sewer lines are available for connection and the treatment facility has sufficient capacity. A wastewater capacity request form should be submitted to the public works department as part of the permitting process. Therefore, implementation of the Proposed Action at Site 135B would have no impact the sewer system. Site 135B, in conjunction with past, present, or reasonably foreseeable future actions, would have no significant cumulative impacts to sewer system.

Site 135B, in conjunction with past, present, or reasonably foreseeable future actions, would have no significant cumulative impacts to utilities.

4.3 Summary of Significant Impacts and Potential Mitigation

This project would have no significant impacts associated with the implementation of the Proposed Action at either site, Site 132 - Johnnycake Road or Site 135B - Urbana. Impacts identified with Site 132 Johnnycake Road included surface waters, wetlands, farmland soils, vegetation and wildlife and some air and noise effects. Utilities would have to be improved. Traffic and transportation would result in minor cumulative impacts to traffic. Implementation of the Proposed Action at Site 132 would require mitigation for impacts to wetlands and Waters of the U.S. Mitigation would be determined based on the jurisdictional determination, and final site layout, which would dictate impacts to jurisdictional wetlands and Waters of the U.S., and the permit requirements.

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5.0 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE ENHANCEMENT OF LONG-TERM PRODUCTIVITY

1 Short-term uses of the environment are those that occur over a period of less than the life of the Proposed
2 Action. Long-term uses include those impacts that would persist for a period of five years or more, past
3 the life of the Proposed Action. The activities addressed in this EA that would be categorized as short-
4 term include clearing of the proposed sites and construction of the SSA NSC. Additional short-term use
5 of the environment as an indirect result of this alternative would be impacts to local traffic by
6 construction vehicles. These short-term effects would be offset by the construction of a new building to
7 house NSC which provides vital services to U.S. Citizens and would be a long term benefit on a local,
8 regional, and national level.

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6.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

1 Construction of a new SSA NSC facility would result in minor impacts to the natural environment;
2 therefore the biodiversity of the region would not be significantly impacted. The operation of the facility
3 would require energy to heat, cool, and light the buildings. Commitment of these resources would not be
4 considered significant. The commitment of these resources is established on the premise that the local and
5 regional residents and business community would benefit from the operation of this facility. Benefits that
6 are anticipated to outweigh the commitment of these resources include the indirect economic benefits to
7 the local area.

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